

FIG.1

MAC Address	IP Address	Node Name	Port No.	Destination Node	Transmission Capacity*1	Total Transmission Capacity*1	Path between DB*2 and Nodes
47-58-A5-FF-85-00	10.115.20.1	DB*2	-	3-4	-	-	DB
56-13-CA-05-91-FC	10.115.20.6	3-4	1	3-2	33	16	DB→3-4
			2	DB*2	20	-	DB→3-4
			3	-	-	-	DB→3-4
			4	3-5	15	16	DB→3-4
63-C1-65-00-BC-56	10.115.20.16	3-2	1	3-1	22	21	DB→3-4→3-2
			2	3-3	26	5	DB→3-4→3-2
			3	-	-	-	DB→3-4→3-2
			4	3-4	20	16	DB→3-4→3-2
98-B5-42-A3-E4-FF	10.115.20.5	3-1	1	3-2	18	21	DB→3-4→3-2→3-1
			2	2-1	14	16	DB→3-4→3-2→3-1
			3	2-2	12	5	DB→3-4→3-2→3-1
			4	-	-	-	DB→3-4→3-2→3-1
00-55-42-AE-47-CA	10.115.20.10	3-3	1	2-4	5	5	DB→3-4→3-2→3-3
			2	3-2	16	5	DB→3-4→3-2→3-3
			3	2-3	5	-	DB→3-4→3-2→3-3
			4	-	-	-	DB→3-4→3-2→3-3
43-48-81-54-95-66	10.115.20.26	2-2	-	3-1	-	-	DB→3-4→3-2→3-1→2-2
AC-FF-00-36-E2-69	10.115.20.11	2-1	-	3-1	-	-	DB→3-4→3-2→3-1→2-1
F4-E3-CA-B8-11-D5	10.115.20.20	2-4	-	3-3	-	-	DB→3-4→3-2→3-3→2-4
.
.
.

*1 Unit: Mbps *2 DB: Network resource management database

* Node name is optional; in the figure above, connection destinations are represented by node names.

FIG.2

Call Request Terminal *1	Call Requested Terminal *1	Transmission Capacity	Path Information	Reserved Transmission Capacity
2-1	2-8	10	2-1→3-1→3-2→3-4→3-5→3-7→2-8	
2-4	2-2	5	2-4→3-4→3-2→3-1→2-2	
2-8	2-1	6	2-8→3-7→3-5→3-4→3-2→3-1→2-1	
.	.	.	.	
.	.	.	.	
.	.	.	.	

*1 May be an IP address, a MAC address, or a node name.

FIG.3

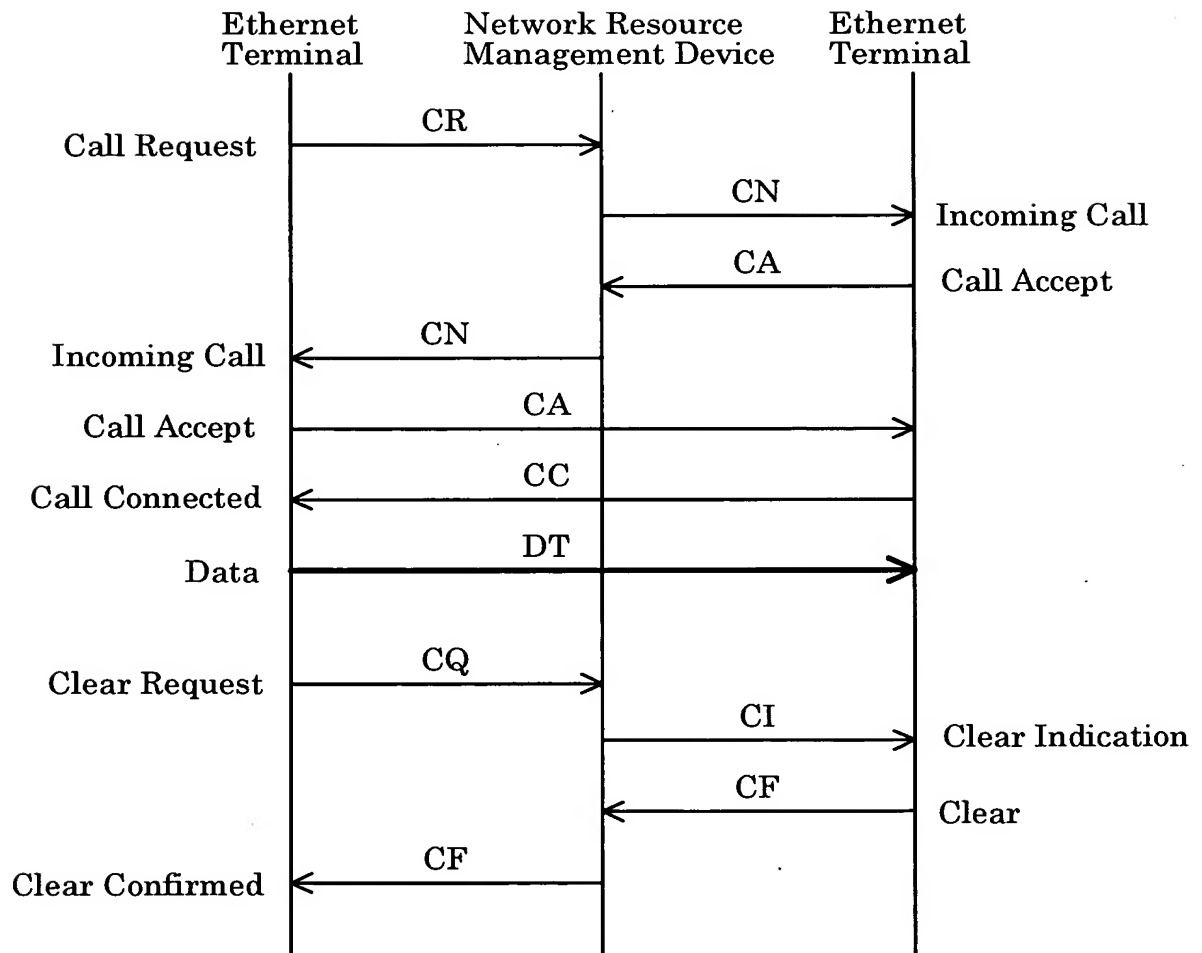


FIG.4

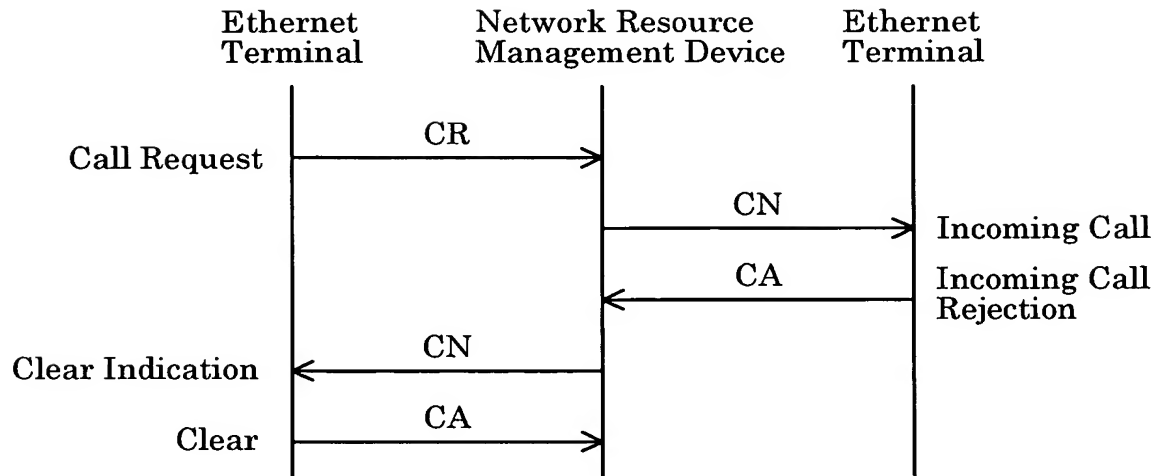


FIG.5

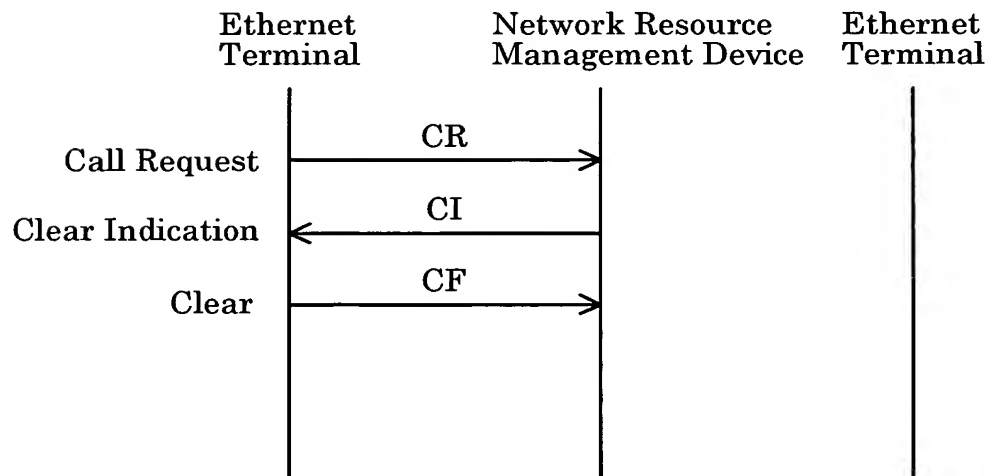
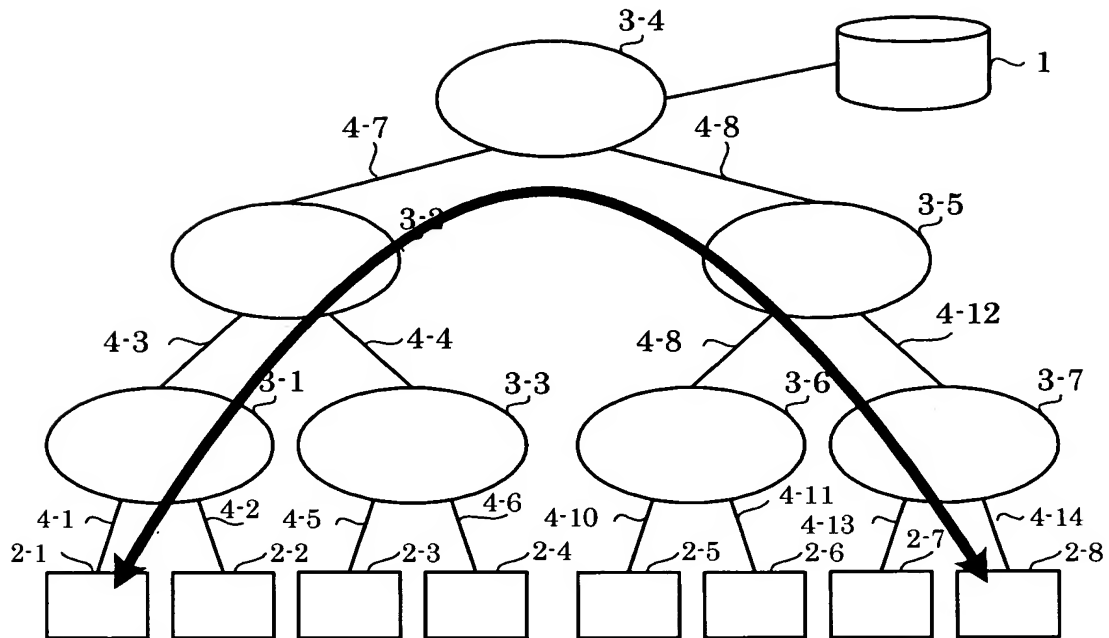


FIG.6



3-1 MAC Address Table

MAC Address	Port	Age
2-1	2	250
2-2	3	100
2-8	1	200
1	1	160
2-3	1	25

3-2 MAC Address Table

MAC Address	Port	Age
2-1	1	100
2-3	2	60
2-4	2	200
1	4	150
2-8	4	250

3-4 MAC Address Table

MAC Address	Port	Age
2-1	1	250
2-3	1	100
2-8	4	200
1	2	150
2-6	4	25

3-5 MAC Address Table

MAC Address	Port	Age
2-8	2	60
2-6	3	60
2-6	3	200
1	1	40
2-1	1	25

3-7 MAC Address Table

MAC Address	Port	Age
2-8	2	30
2-7	3	100
1	1	10
2-1	1	160
2-5	1	25

FIG.7

	Packet Type		Summary of Functions
	between Network Resource Management Device and Call Requested Ethernet Terminal	between Call Request Ethernet Terminal and Network Resource Management Device	
Call Setup and Clear	Incoming Call (CN)	Call Request (CR)	call request and indication of an incoming call
	Call Connected (CC)	Call Accept (CA)	call connected and call accepted
	Clear Indication (CI)	Clear Request (CQ)	clear request and indication
	Clear Confirmation (CF)	Clear Confirmation (CF)	clear confirmation
	Data (DT)	Data (DT)	data transfer
Data Transfer	Interrupt (IT)	Interrupt (IT)	emergency data transfer (prevention of aging)

FIG.8

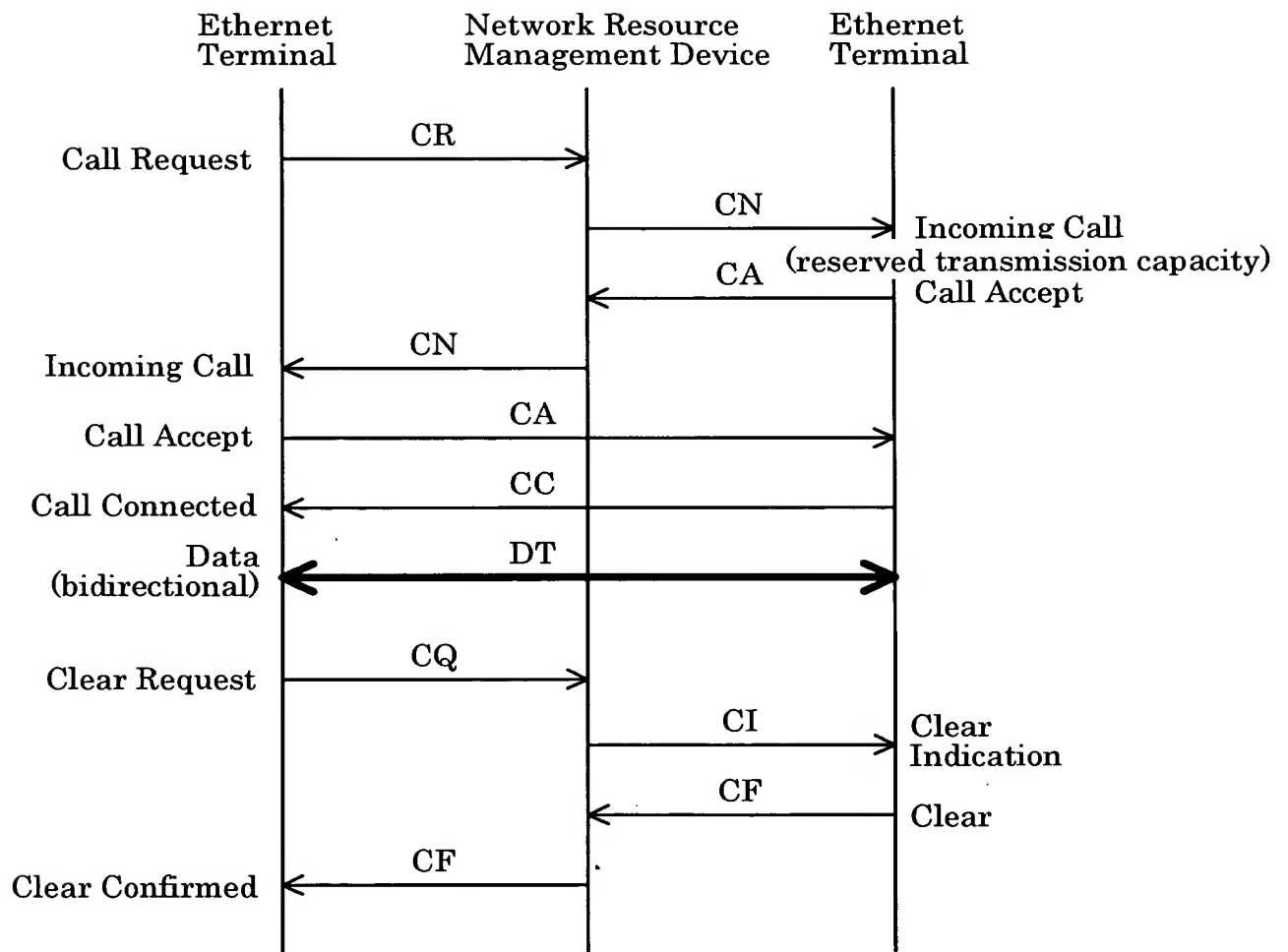


FIG.9

Assures current 10 Mbps band

Call Request Terminal	Call Requested Terminal	Transmission Capacity	Path Information	Reserved Transmission Capacity
2-1	2-8	10	2-1→3-1→3-2→3-4→3-5→3-7→2-8	
2-4	2-2	5	2-4→3-4→3-2→3-1→2-2	
2-8	2-1	6	2-8→3-7→3-5→3-4→3-2→3-1→2-1	
.	.	.	.	
.	.	.	.	
.	.	.	.	

Would like to change it to 6 Mbps

Call Request Terminal	Call Requested Terminal	Transmission Capacity	Path Information	Reserved Transmission Capacity
2-1	2-8	10	2-1→3-1→3-2→3-4→3-5→3-7→2-8	6
2-4	2-2	5	2-4→3-4→3-2→3-1→2-2	
2-8	2-1	6	2-8→3-7→3-5→3-4→3-2→3-1→2-1	
.	.	.	.	
.	.	.	.	
.	.	.	.	

Band assured in network management database

MAC Address	IP Address	Node Name	Port No.	Destination Node	Transmission Capacity	Total Transmission Capacity	Path between DB and Nodes
47-58-A5-FF-85-00	10.115.20.1	DB*2	-	3-4	-		DB
56-13-CA-05-91-FC	10.115.20.6	3-4	1	3-2	33	12	DB→3-4
			2	DB*2	20	-	DB→3-4
			3	-	-	-	DB→3-4
			4	3-5	15	12	DB→3-4
63-C1-65-00-BC-56	10.115.20.16	3-2	1	3-1	22	19	DB→3-4→3-2
			2	3-3	26	5	DB→3-4→3-2
			3	-	-	-	DB→3-4→3-2
			4	3-4	20	12	DB→3-4→3-2
98-B5-42-A3-E4-FF	10.115.20.5	3-1	1	3-2	18	19	DB→3-4→3-2→3-1
			2	2-1	14	12	DB→3-4→3-2→3-1
			3	2-2	12	5	DB→3-4→3-2→3-1
			4	-	-	-	DB→3-4→3-2→3-1
00-55-42-AE-47-CA	10.115.20.10	3-3	1	2-4	5	5	DB→3-4→3-2→3-3
			2	3-2	16	5	DB→3-4→3-2→3-3
			3	2-3	5	-	DB→3-4→3-2→3-3
			4	-	-	-	DB→3-4→3-2→3-3
43-48-81-54-95-66	10.115.20.26	2-2	-	3-1	-	-	DB→3-4→3-2→3-1→2-2
AC-FF-00-36-E2-69	10.115.20.11	2-1	-	3-1	-	-	DB→3-4→3-2→3-1→2-1
F4-E3-CA-B8-11-D5	10.115.20.20	2-4	-	3-3	-	-	DB→3-4→3-2→3-3→2-4
.
.
.

Switch to 6 Mbps complete

Call Request Terminal	Call Requested Terminal	Transmission Capacity	Path Information	Reserved Transmission Capacity
2-1	2-8	6	2-1→3-1→3-2→3-4→3-5→3-7→2-8	
2-4	2-2	5	2-4→3-4→3-2→3-1→2-2	
2-8	2-1	6	2-8→3-7→3-5→3-4→3-2→3-1→2-1	
.	.	.	.	
.	.	.	.	
.	.	.	.	

Fig.10

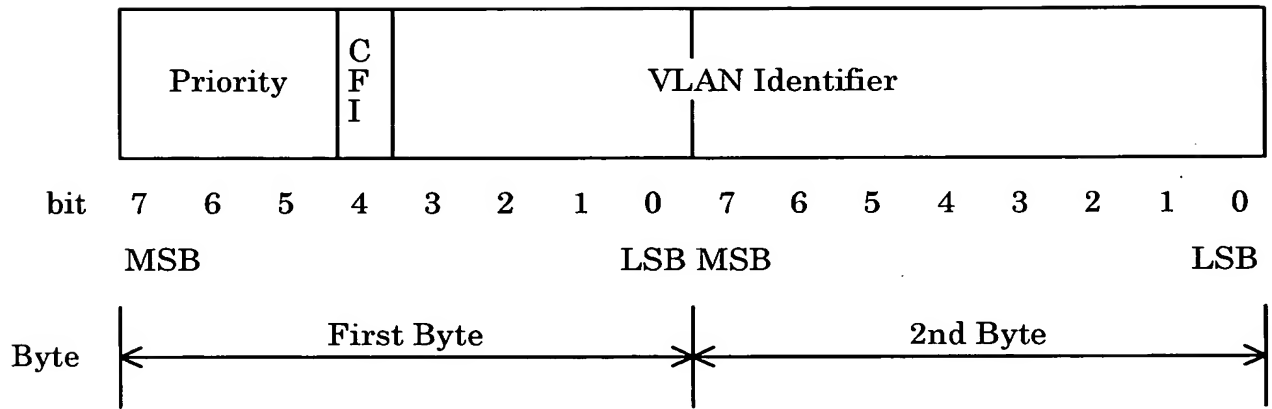


FIG.11

Priority	Traffic Type
7 (highest)	Network Management
6	Voice
5	Video
4	Controlled load
3	Excellent effort
0	Best effort
2	Spare (definition)
1 (lowest)	Background

FIG.12

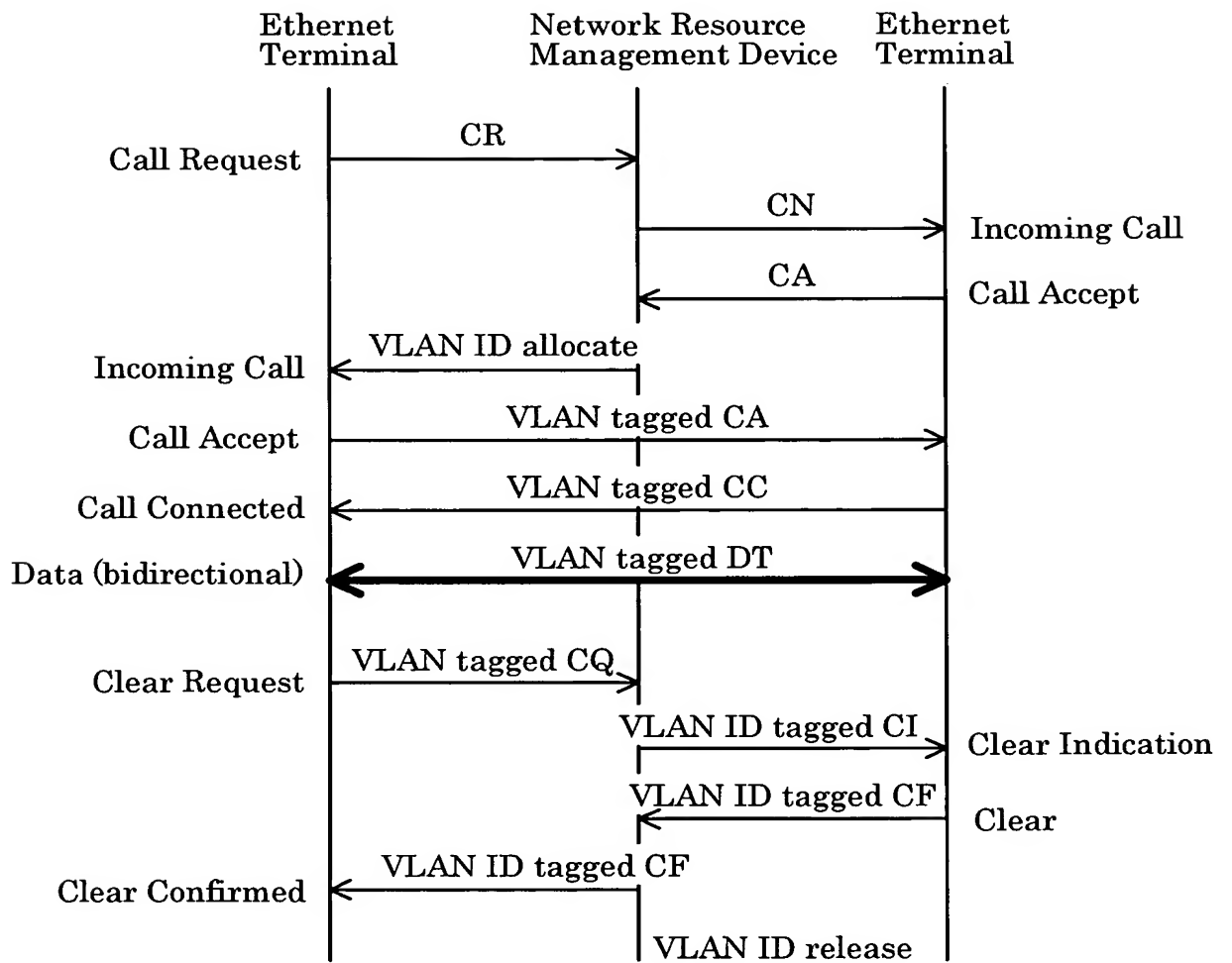


FIG.13

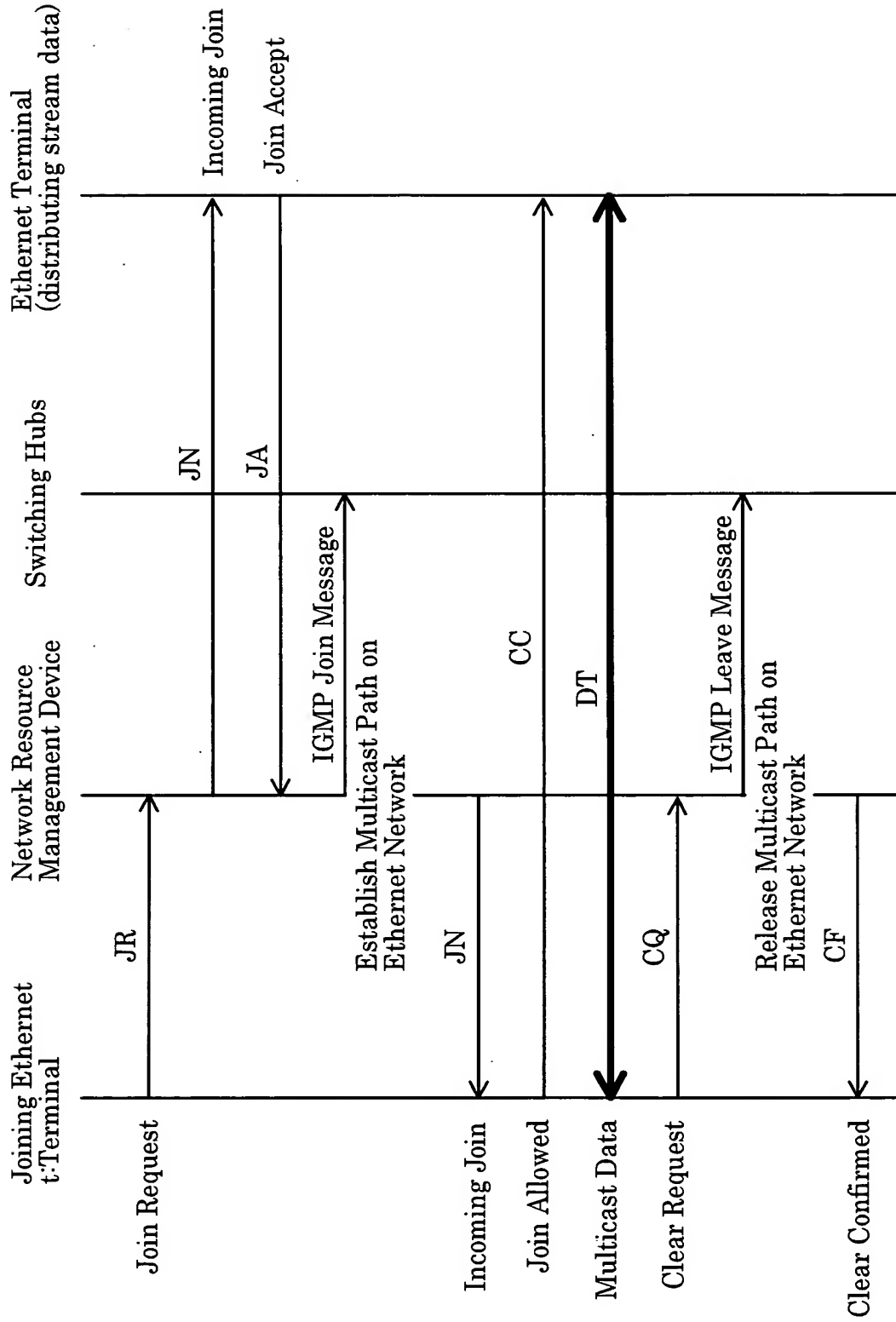


FIG.14

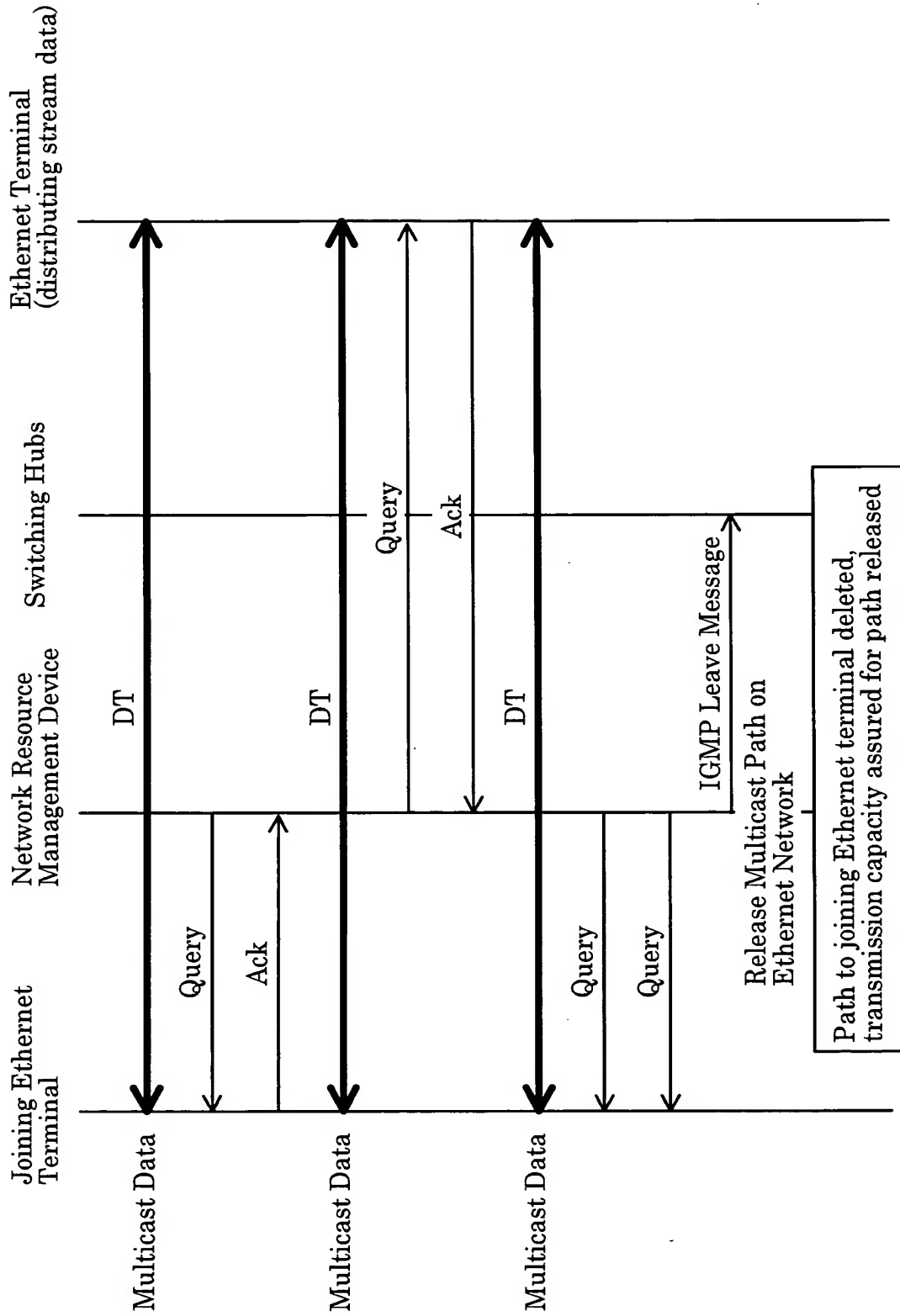


FIG.15

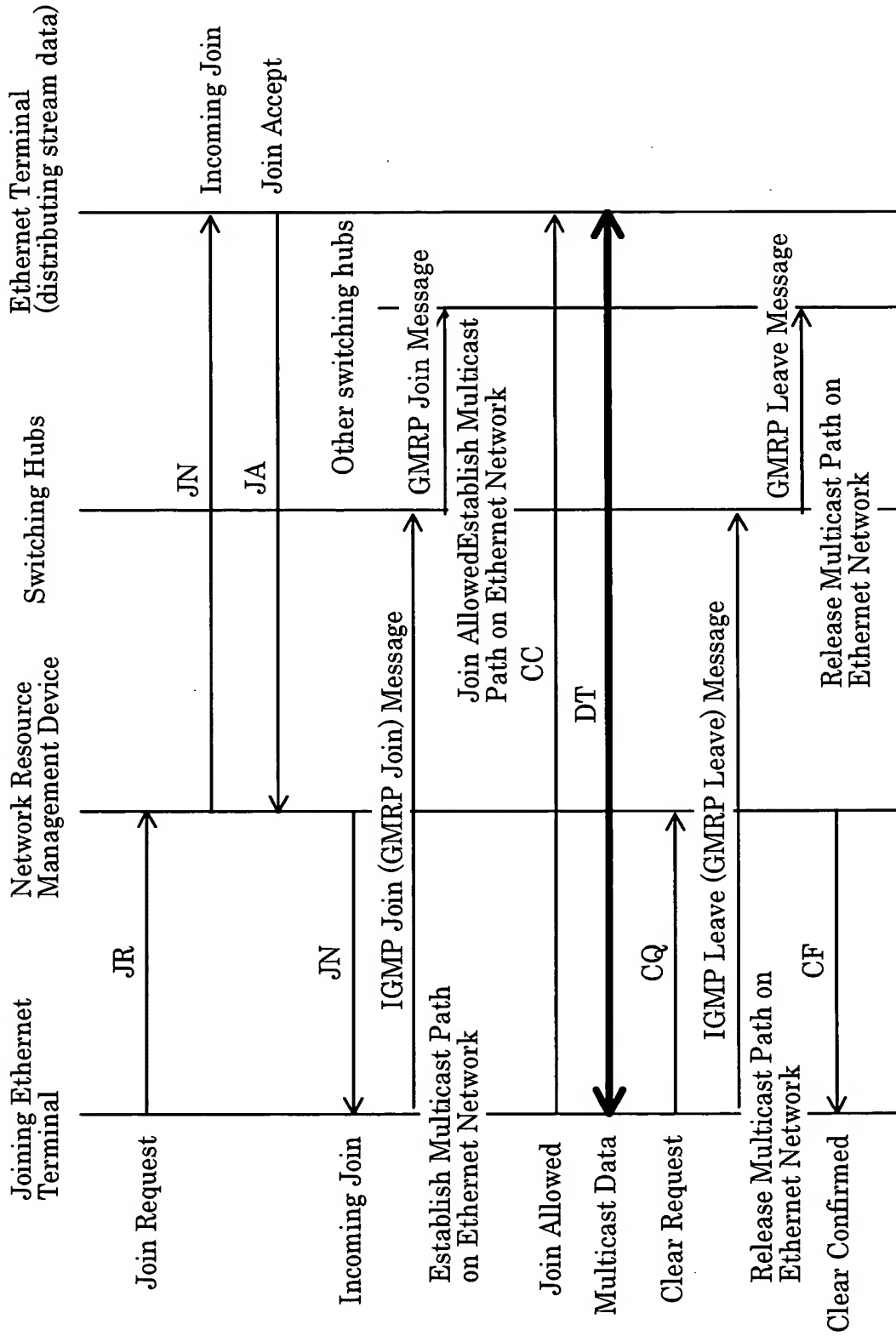


FIG.16

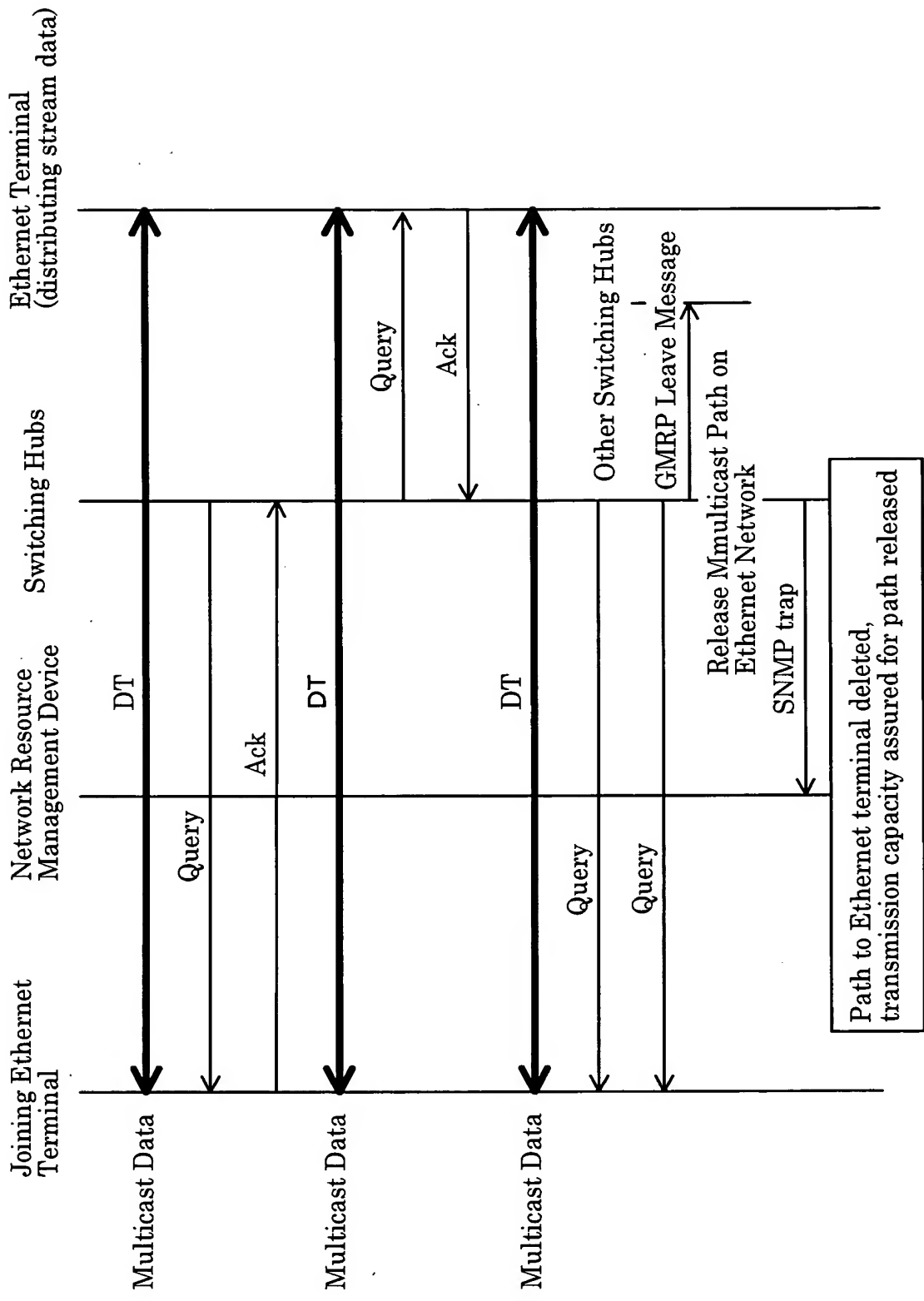


FIG.17

	Packet Type		Summary of Functions
	Management Device and Ethernet Terminal conducting data distribution	Between Joining Ethernet Terminal and Network Resource Management Device	
Setup for Joining to Multicast Communication	Incoming Join (JN)	Join Request (JR)	join request and join indication
	Call Connected (CC)	Join Accept (JA)	call connected and join accepted

FIG.18

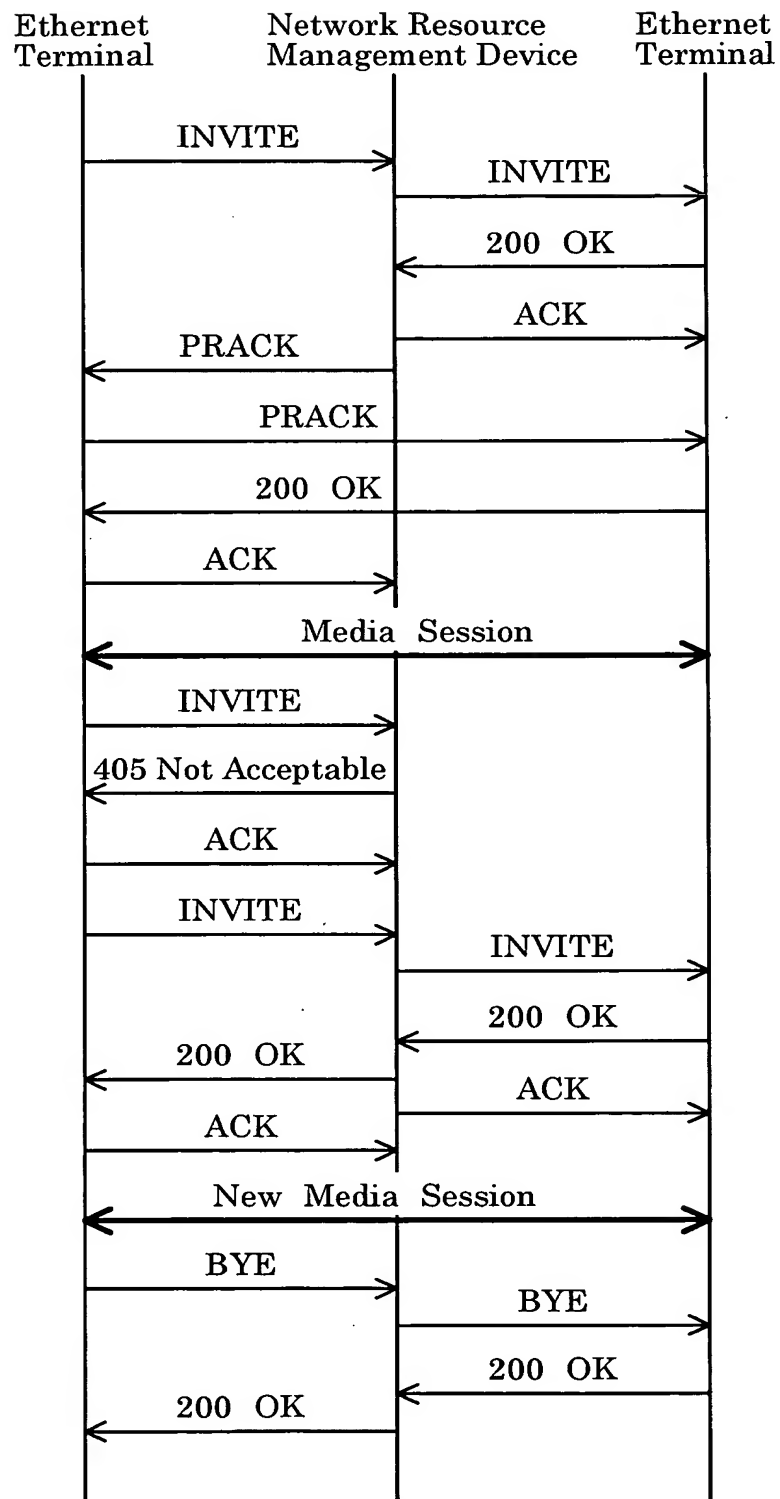


FIG.19

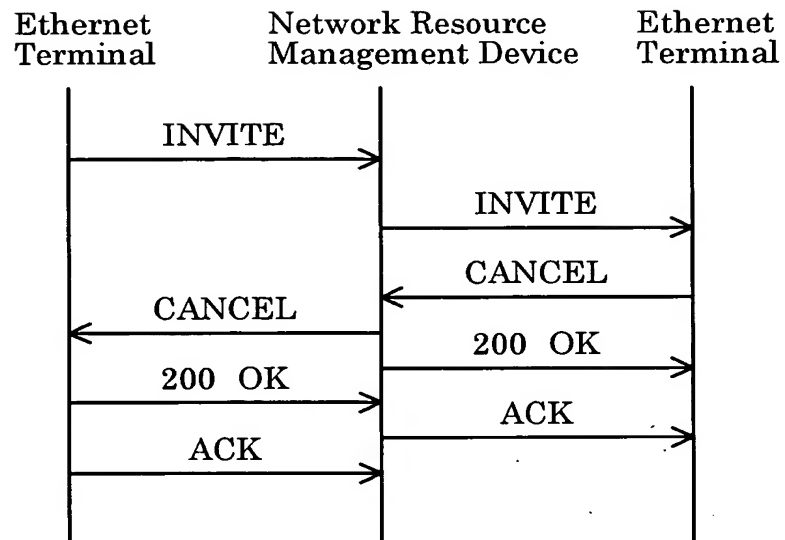


FIG.20

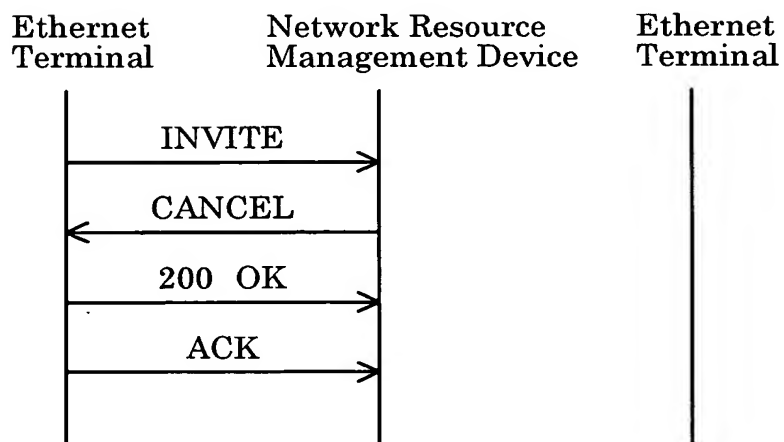


FIG.21

Method	Contents
INVITE	Request for participation in a session
ACK	Confirmation of a final response to INVITE
BYE	Termination of a session
CANCEL	Cancellation of an ongoing session
REGISTER	Registration of user's URI
OPTIONS	Inquiry about optional functions and capabilities
INFO	Mid-call signaling
PRACK	Request for confirmation of provisional response
UPDATA	Update of SDP media negotiation
REFER	Transfer of call to another URI
SUBSCRIBE	Invitation to event notification
NOTIFY	Transmission of invited event notification
MESSAGE	Transmission of IM using message body

FIG.22

Type	Contents	Explanation
1xx	Provisional response or information	Processing of request in progress, not complete yet
2xx	Success	Request accepted without problems
3xx	Request	Request needs to be sent to a different location
4xx	Client error	Request could not be processed due to an error in request, another attempt possible if error is corrected
5xx	Server error	Due to error on server side, request could not be processed, another attempt possible at different location
6xx	Global error	Processing of request failed, no further attempts possible

FIG.23

MAC Address	IP Address	Node Name	Port No.	Destination Node	Transmission Capacity that can be allocated *1	Total Transmission Capacity *1
08-53-C3-AE-6F-FF	193.124.12.68	1		3-4	100	
53-FF-AD-65-22-8A	193.124.12.34	3-4	1	3-2	100	30
			2	3-3	100	30
			3	1	100	
43-EF-21-DC-09-BA	193.124.12.41	3-2	1	3-1	100	30
			2	3-3	100	
			3	3-1	100	30
.
.
.

*1 Unit: Mbps

FIG.24

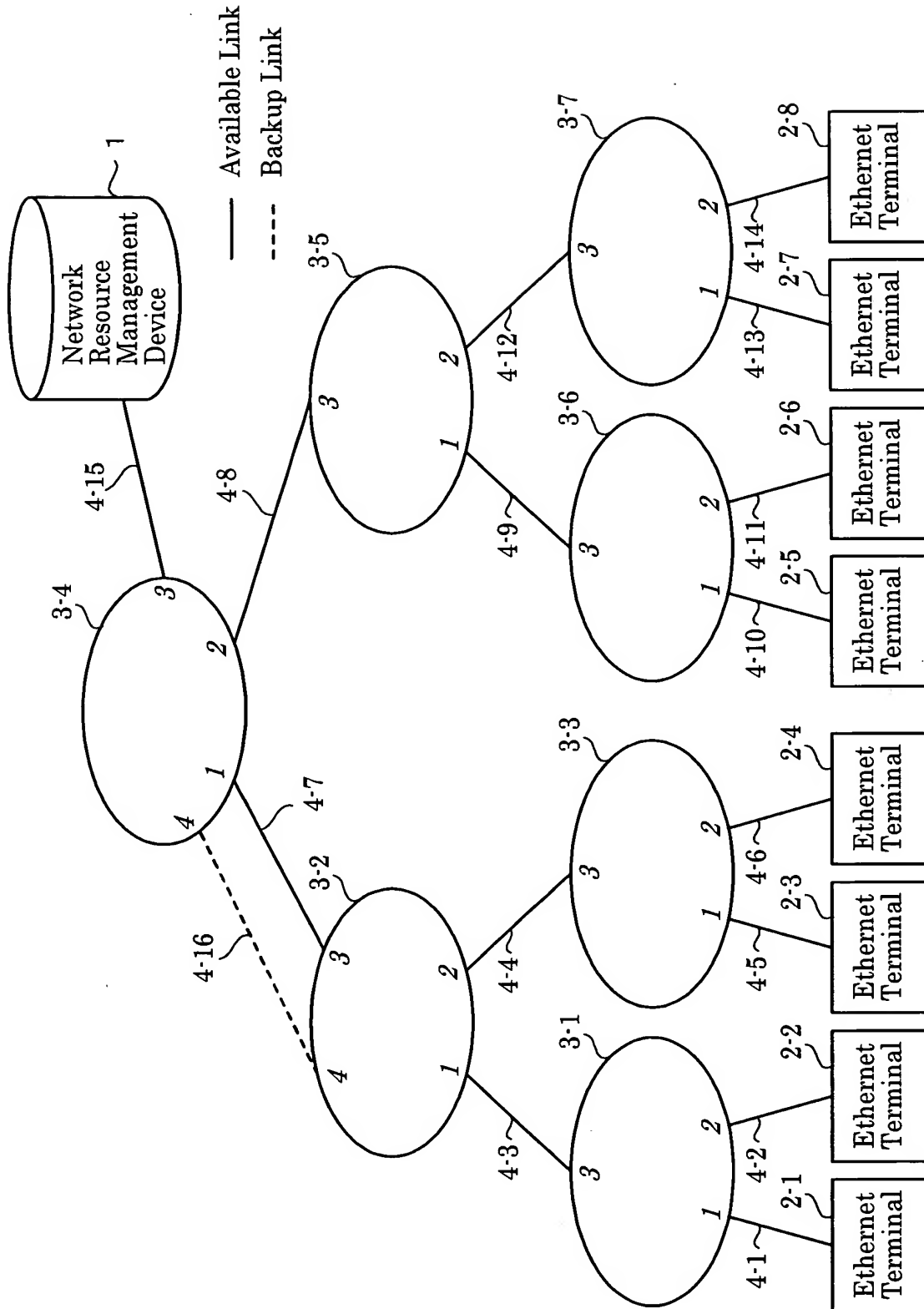


FIG.25

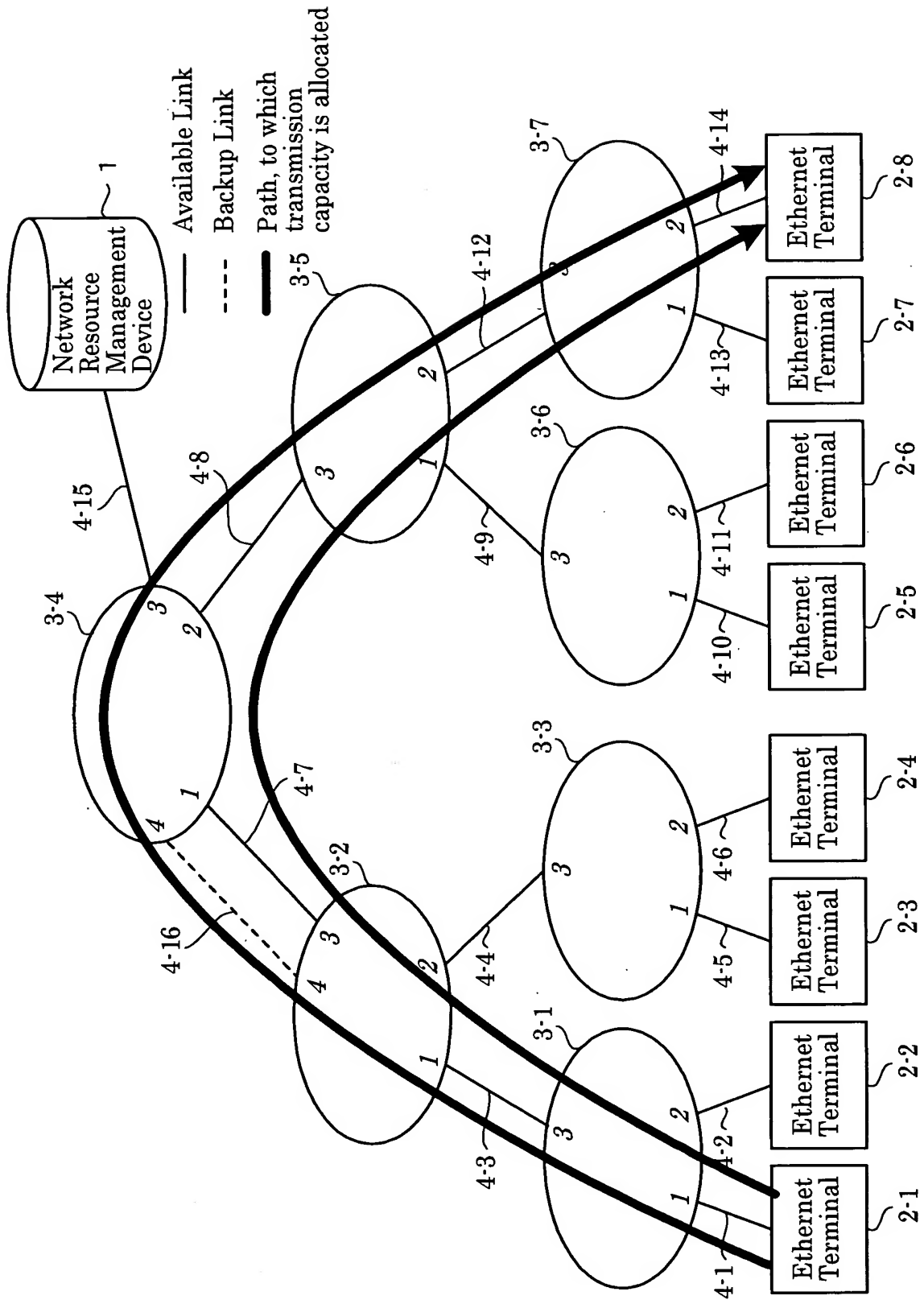


FIG.26

MAC Address *1	Port No.	Destination MAC Address *1	Transmission Capacity that can be allocated *2	Total Transmission Capacity*2
1		3-4	100	
3-4	1	3-2	100	30
	2	3-5	100	60
	3	1	100	
	4	3-2	100	30
3-2	1	3-1	100	60
	2	3-3	100	
	3	3-4	100	30
	4	3-4	100	30
3-5	1	3-6	100	
	2	3-7	100	60
	3	3-4	100	60
· · ·	· · ·	· · ·	· · ·	· · ·

*1: Here, numbers indicated in Fig. 2 are used as MAC addresses

*2: Unit Mbps

FIG.27

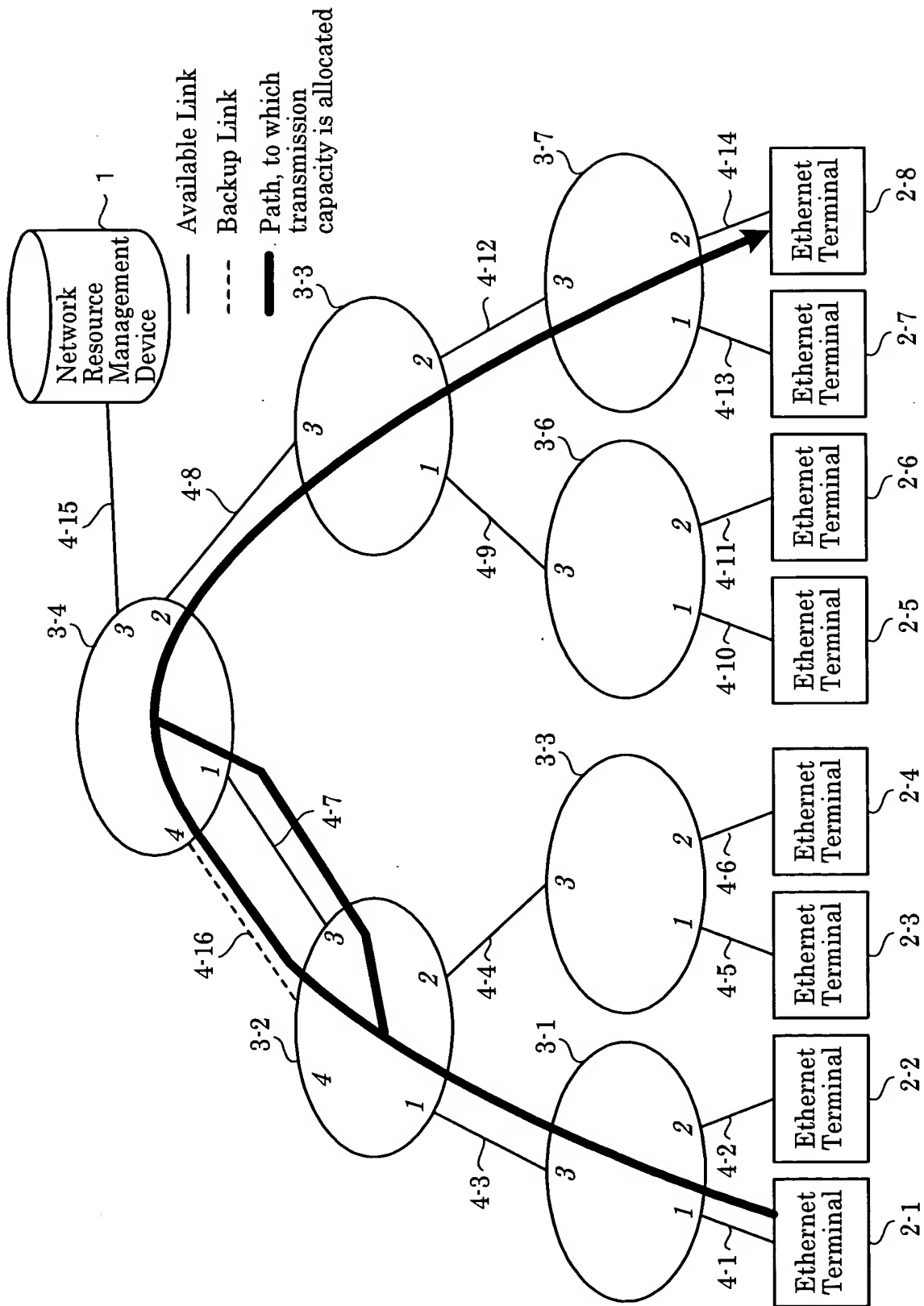


FIG.28

MAC Address *1	Port No.	Destination MAC Address *1	Transmission Capacity that can be allocated *2	Total Transmission Capacity*2
1		3-4	100	
3-4	1	3-2	100	30
	2	3-5	100	30
	3	1	100	
	4	3-2	100	30
3-2	1	3-1	100	30
	2	3-3	100	
	3	3-4	100	30
	4	3-4	100	30
3-5	1	3-6	100	
	2	3-7	100	30
	3	3-4	100	30
⋮ ⋮ ⋮	⋮ ⋮ ⋮	⋮ ⋮ ⋮	⋮ ⋮ ⋮	⋮ ⋮ ⋮

*1: Here, numbers indicated in Fig. 2 are used as MAC addresses

*2: Unit Mbps

FIG.29

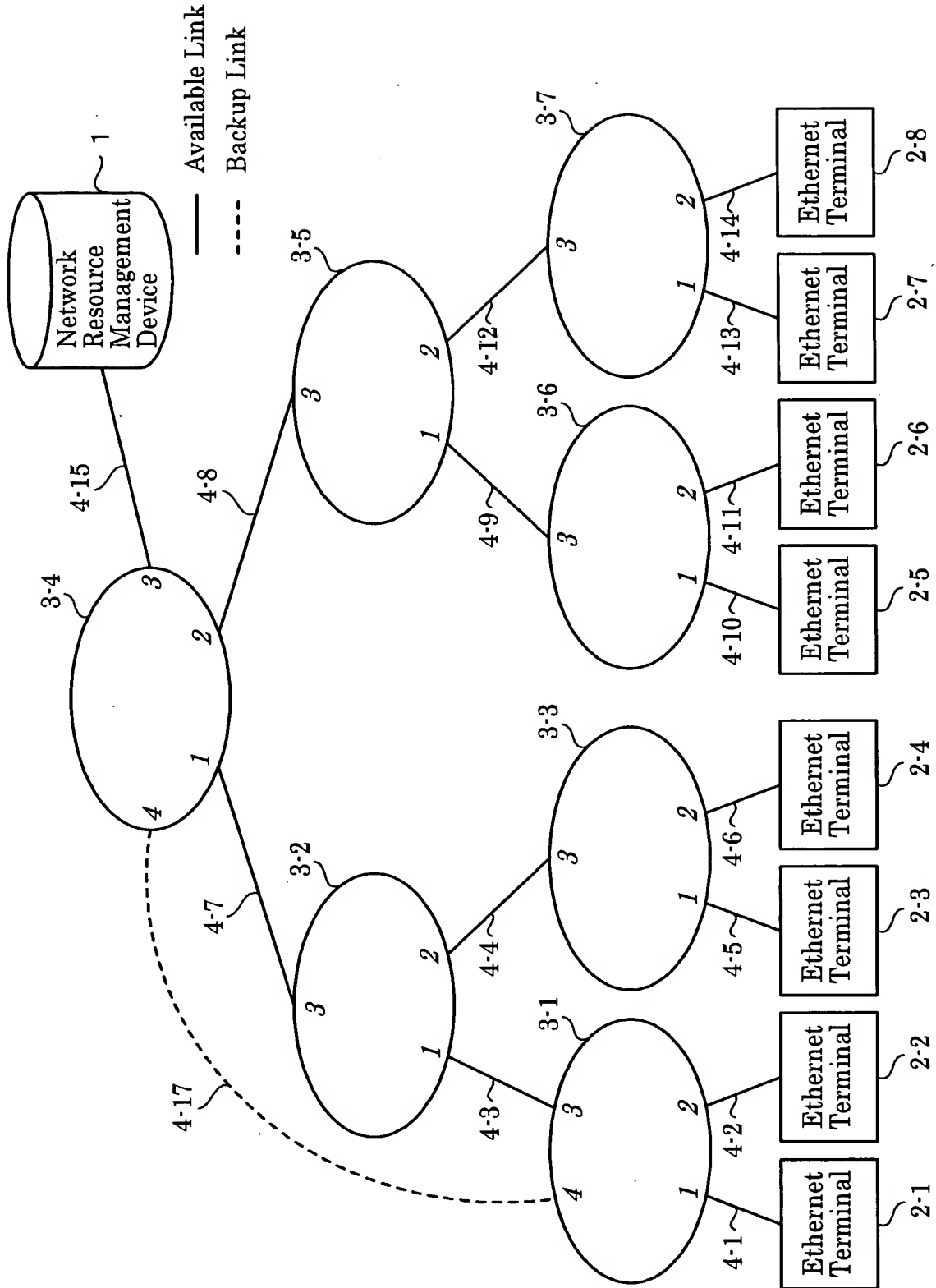


FIG.30

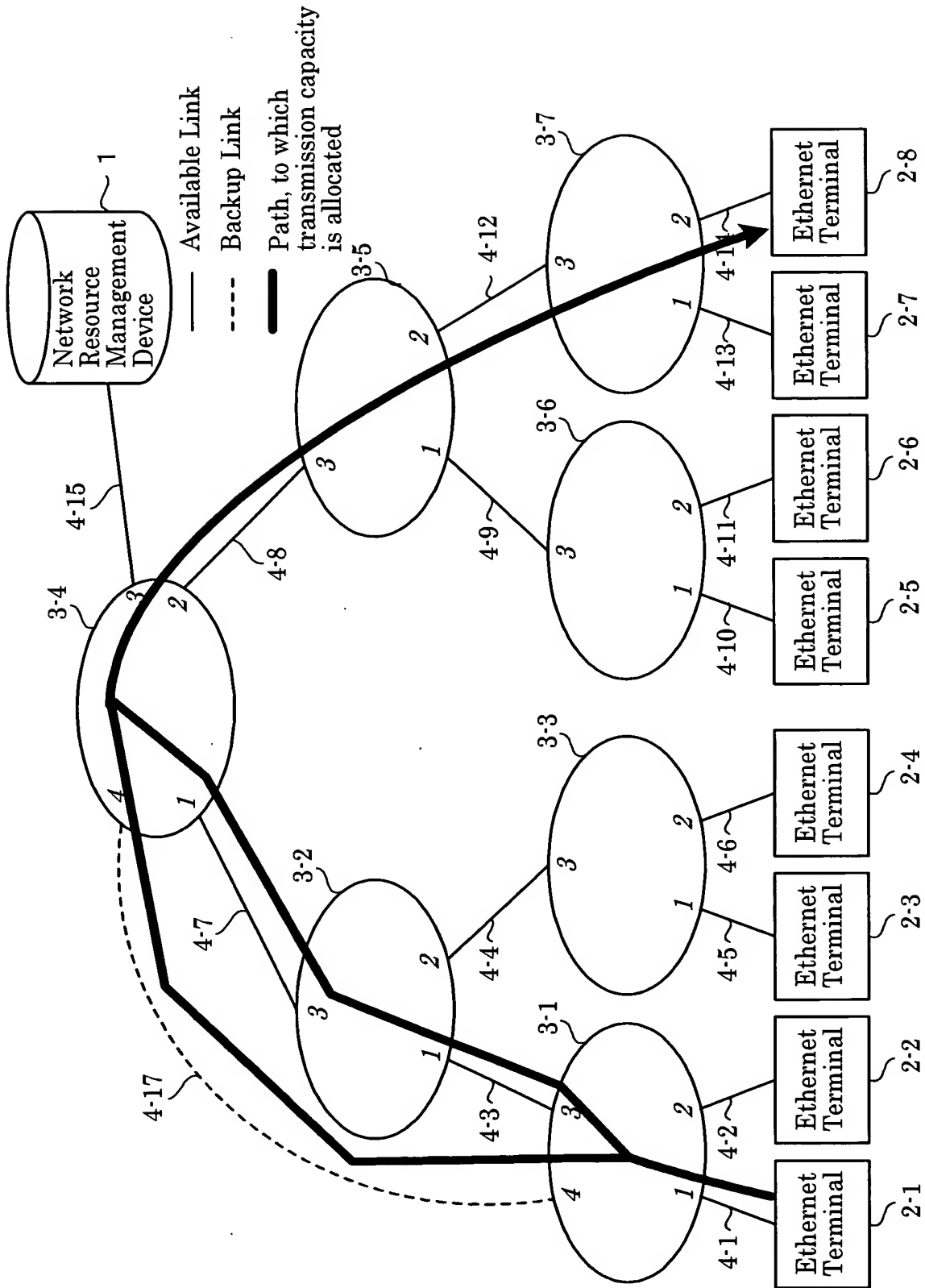


FIG.31

MAC Address *1	Port No.	Destination MAC Address *1	Transmission Capacity that can be allocated *2	Total Transmission Capacity
3-4	1	3-2	100	30
	2	3-5	100	
	3	1	100	
	4	3-1	100	30
3-2	1	3-1	100	30
	2	3-3	100	30
	3	3-4	100	30
3-1	1	2-1	100	30
	2	2-2	100	
	3	3-2	100	30
	4	3-4	100	30
3-3	1	2-3	100	30
	2	2-4	100	
	3	3-2	100	30
.
.
.

*1: Here, numbers indicated in Fig. 2 are used as MAC addresses

*2: Unit Mbps

FIG.32

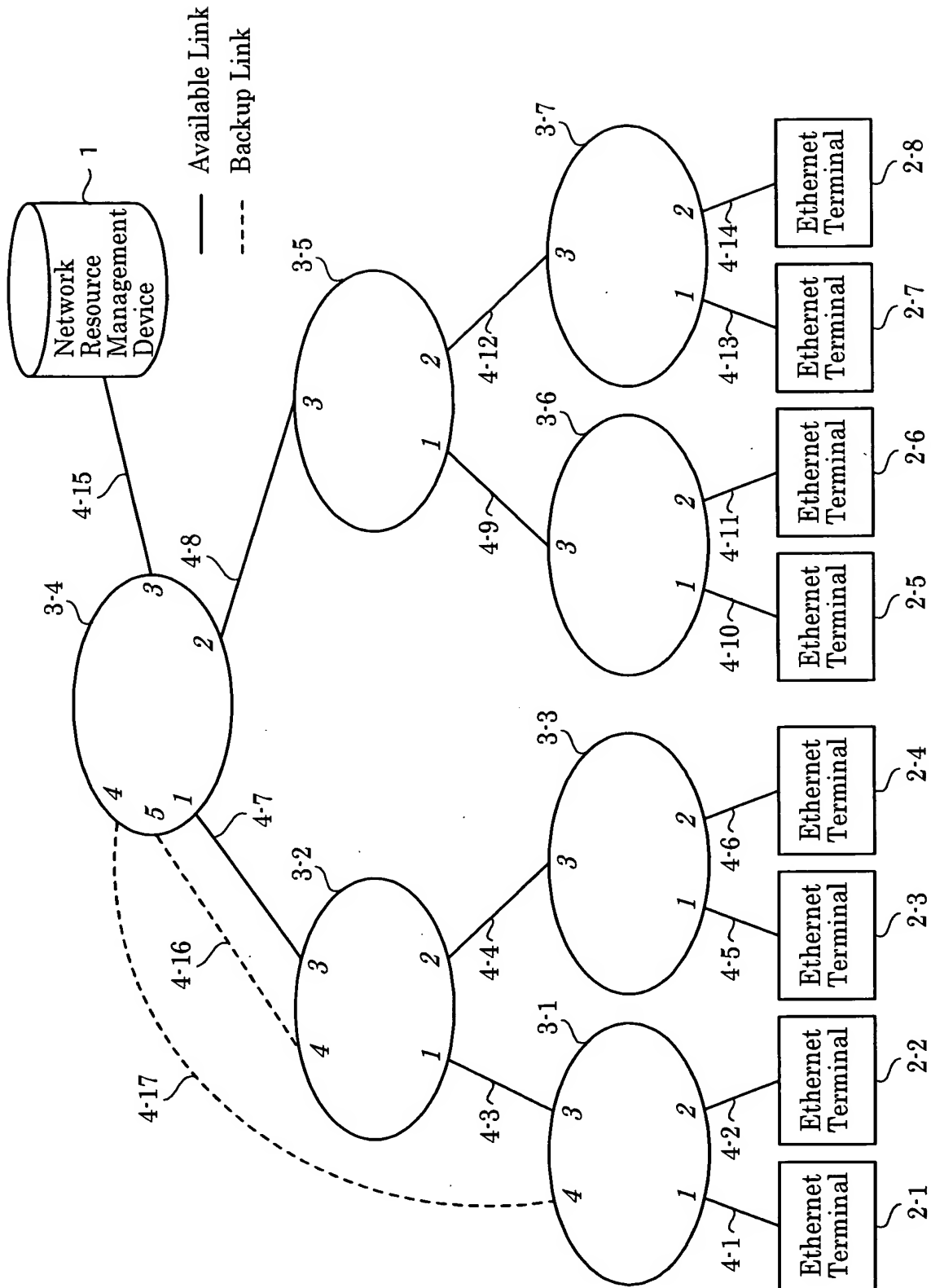


FIG.33

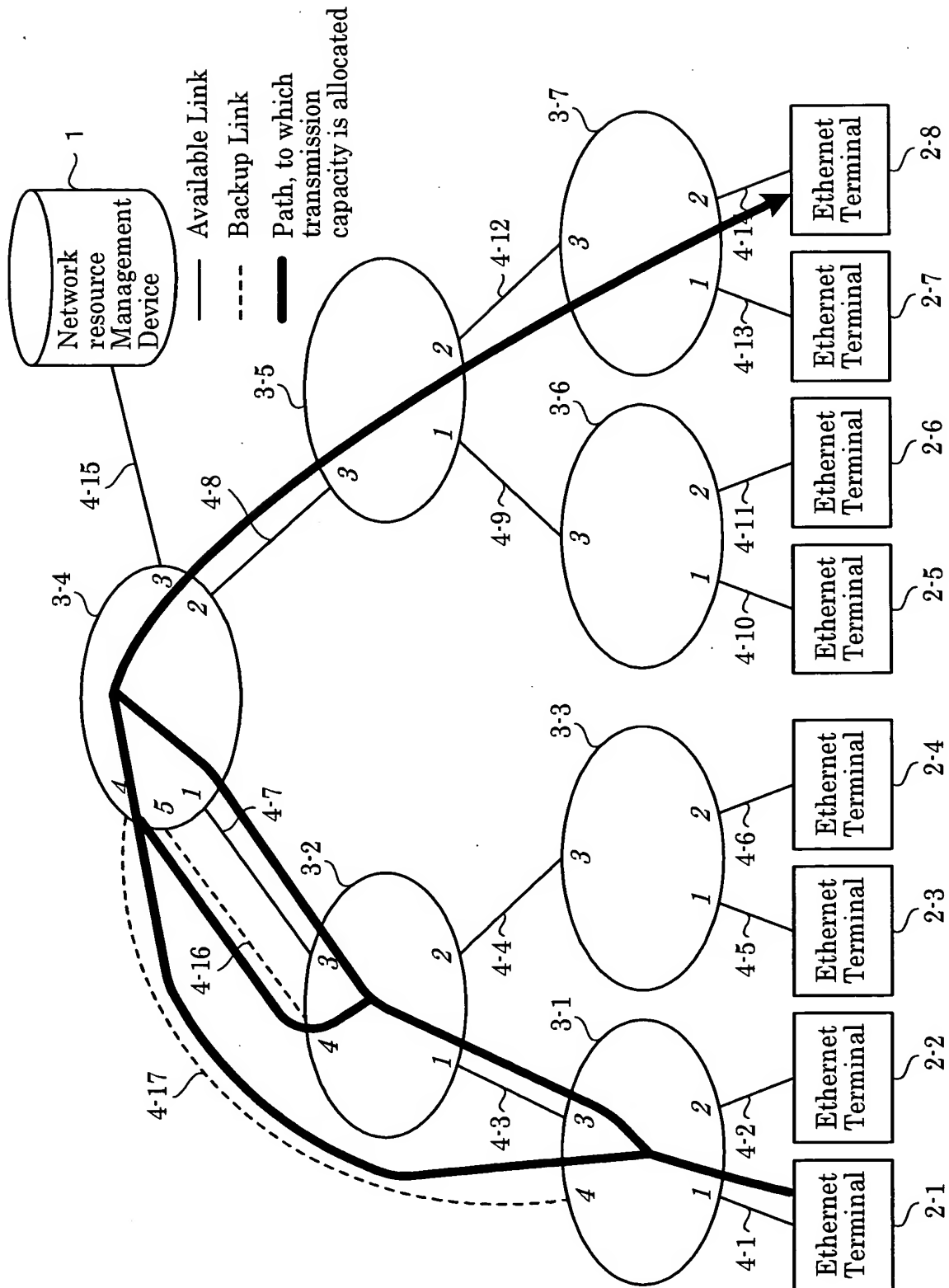


FIG.34

MAC Address *1	Port No.	Destination MAC Address *1	Transmission Capacity that can be allocated *2	Total Transmission Capacity *2
3-1	1	3-2	100	30
	2	3-3	100	
	3	1-1	100	
	4	3-4	100	30
	5	3-2	100	30
3-2	1	3-4	100	30
	2	3-5	100	30
	3	3-1	100	30
	4	3-1	100	30
3-4	1	2-1	100	30
	2	2-2	100	
	3	3-2	100	30
	4	3-1	100	30
3-5	1	2-3	100	30
	2	2-4	100	
	3	3-2	100	30
	4	3-1	100	30
.

*1: Here, numbers indicated in Fig. 2 are used as MAC addresses

*2: Unit Mbps

FIG.35

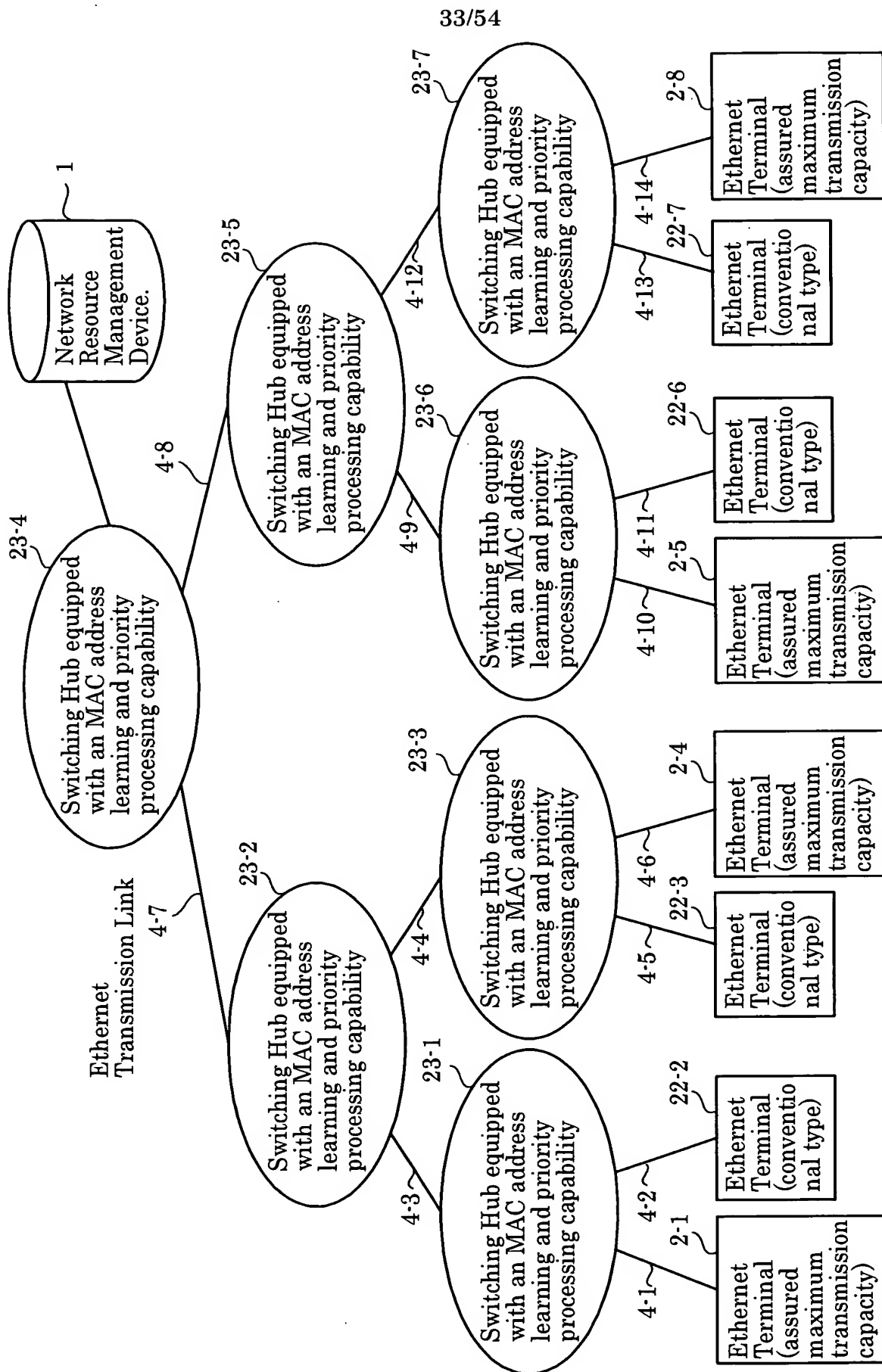


FIG.36

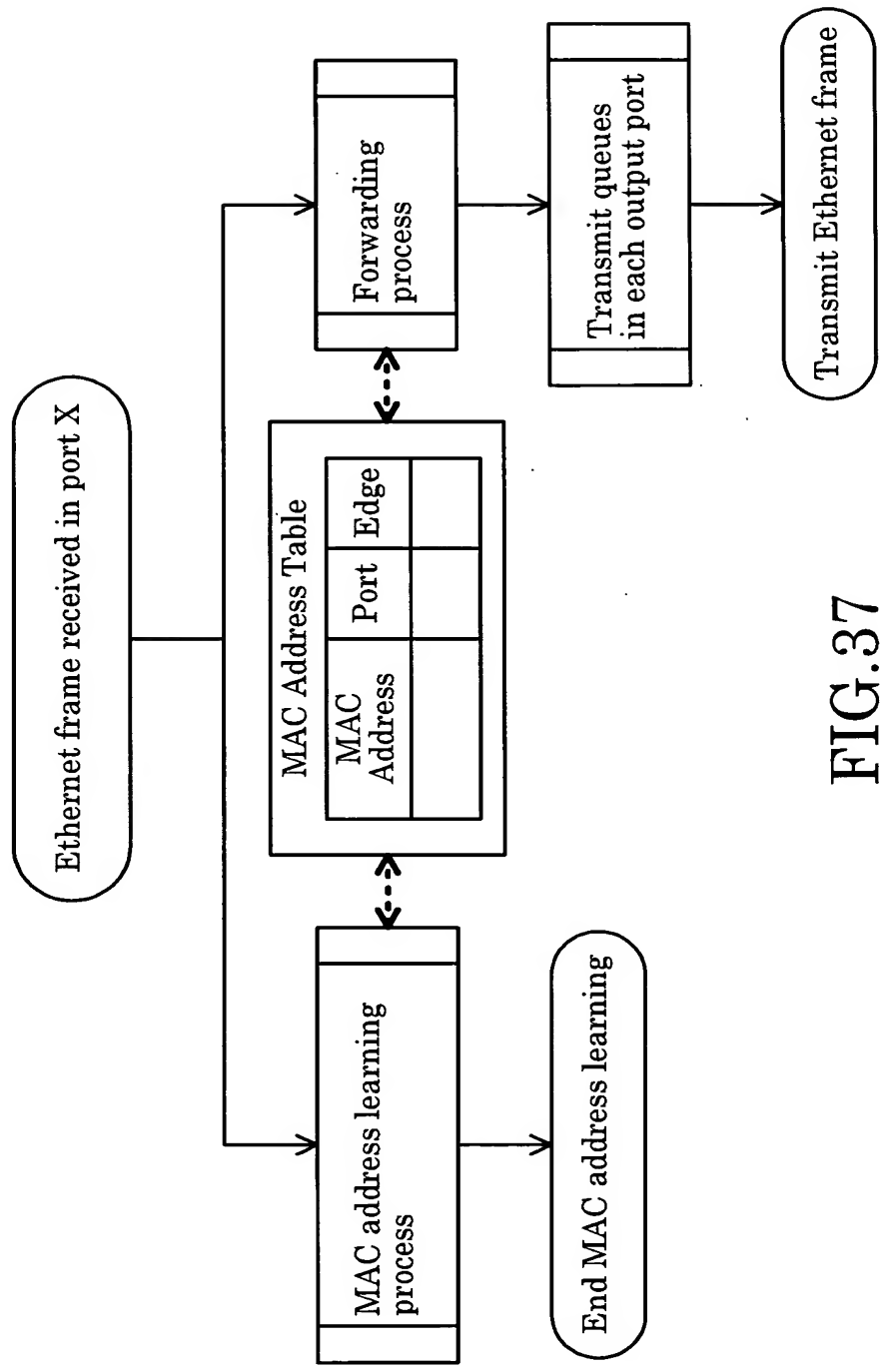


FIG.37

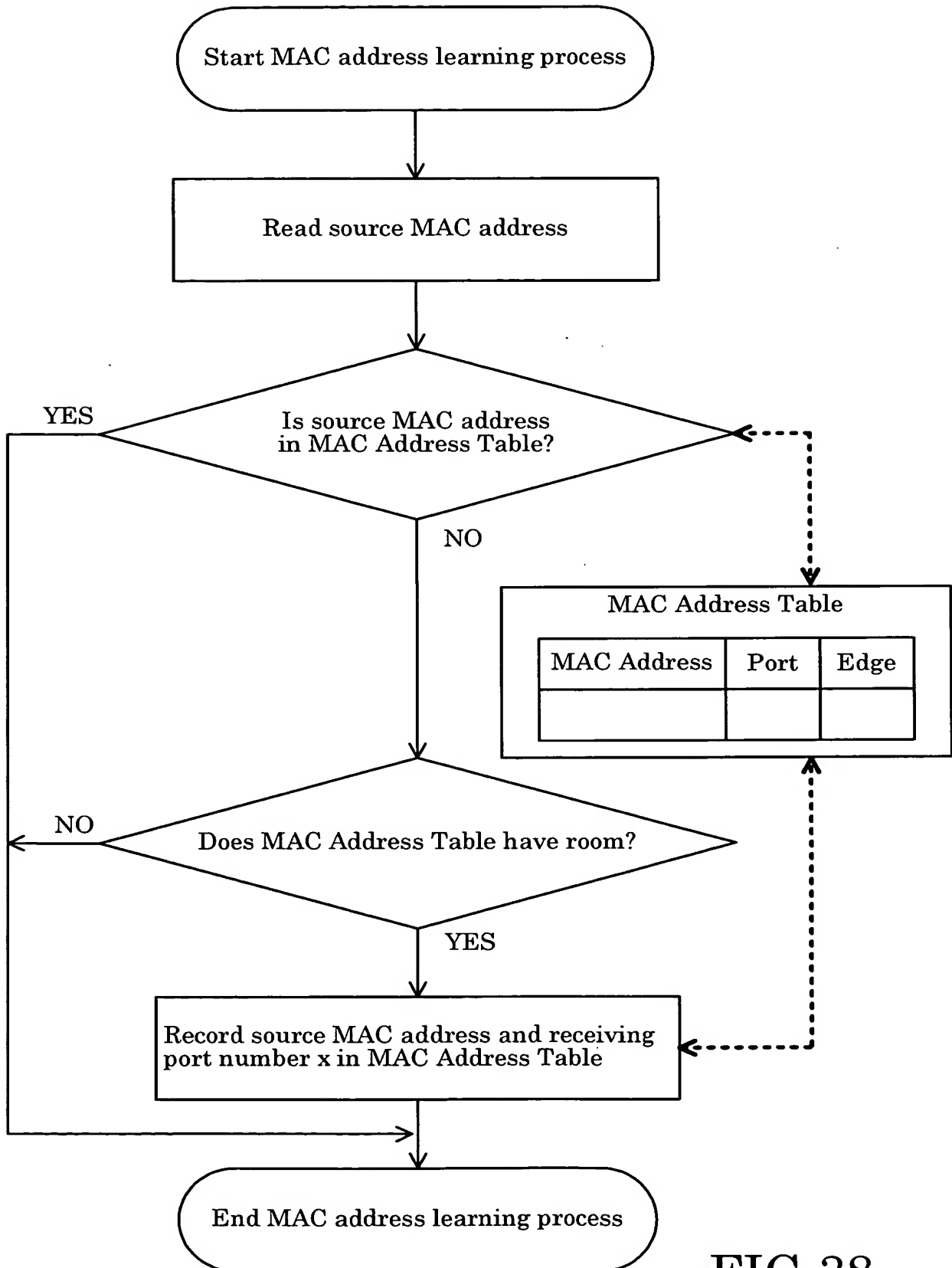
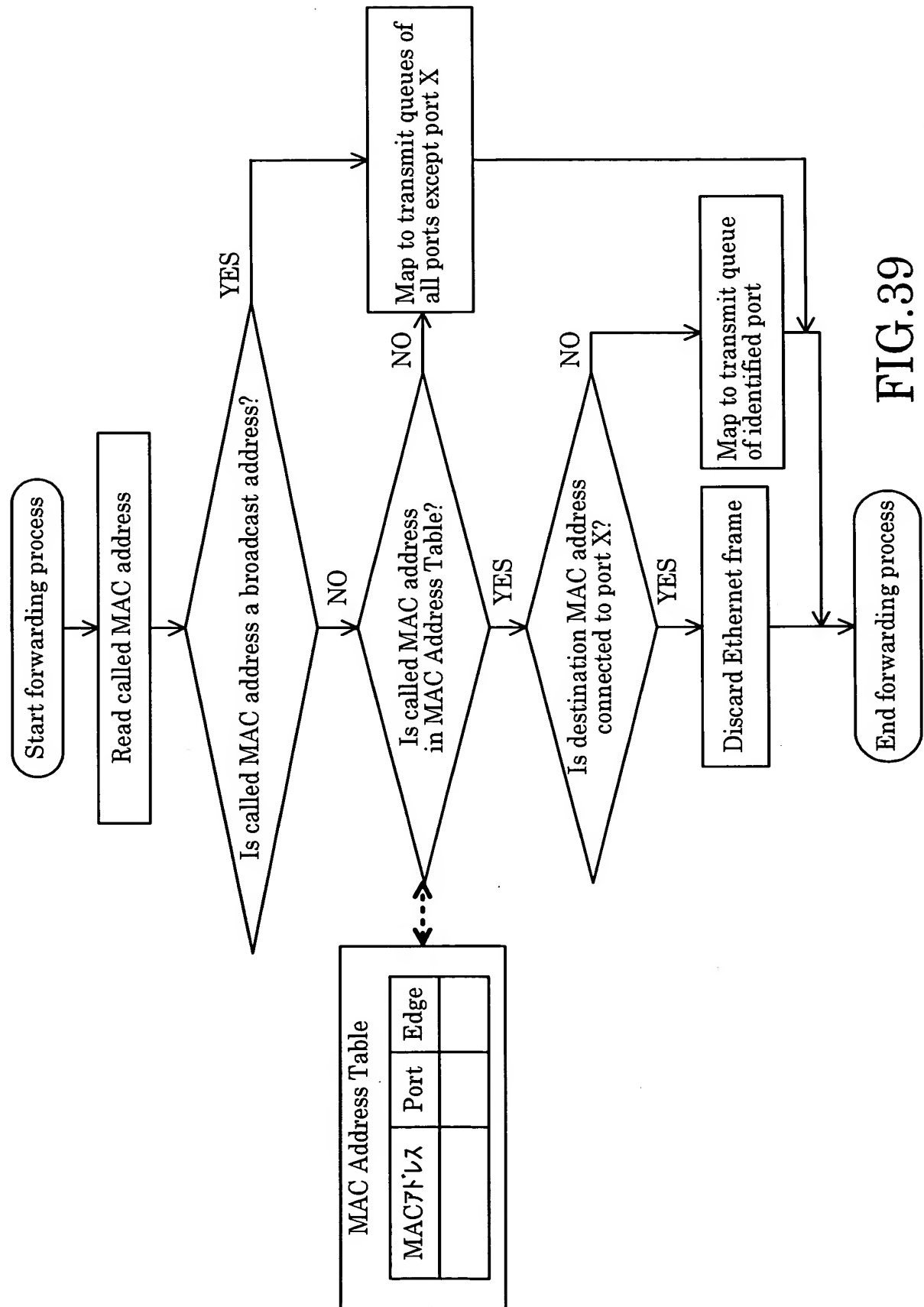


FIG.38



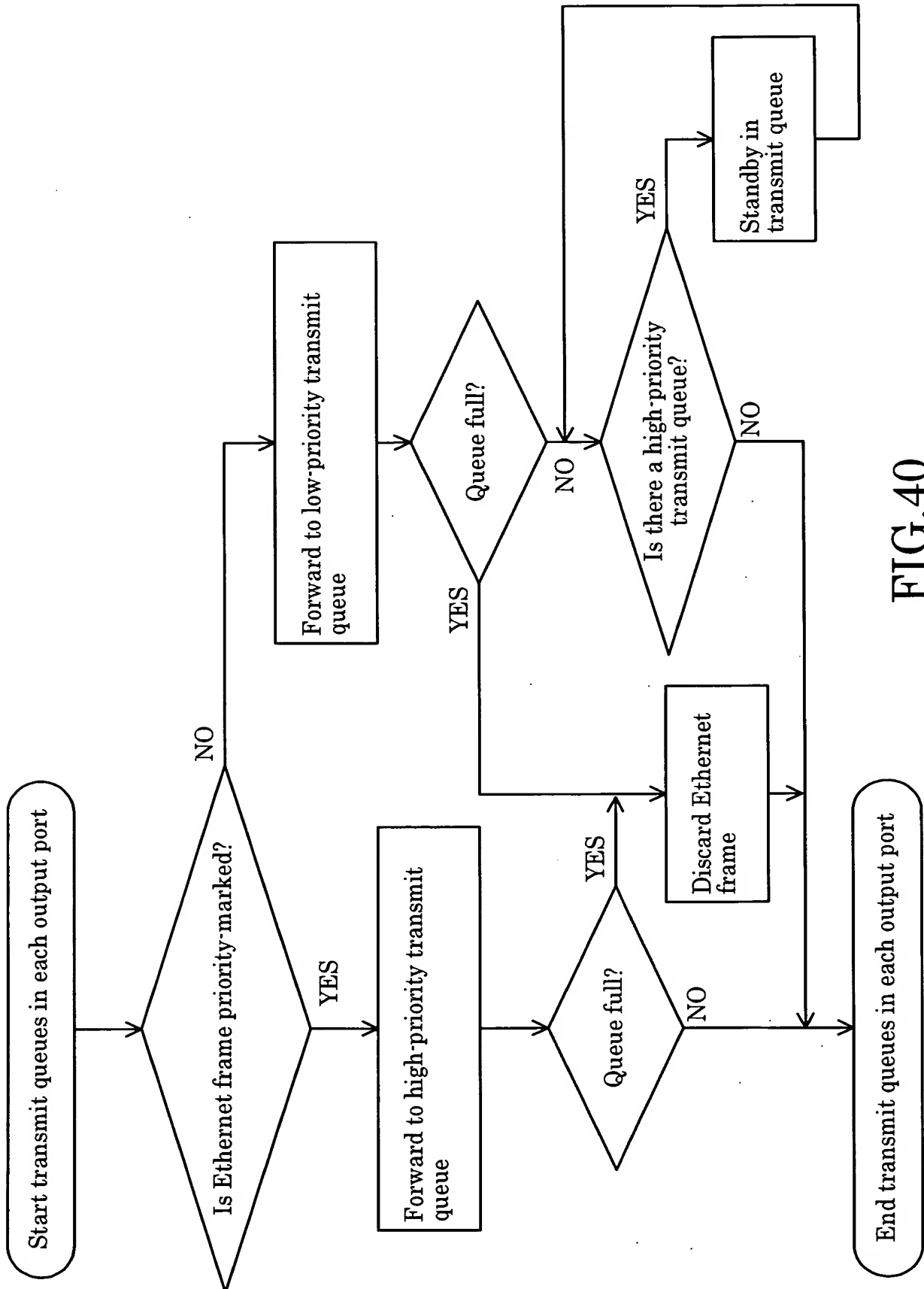


FIG.40

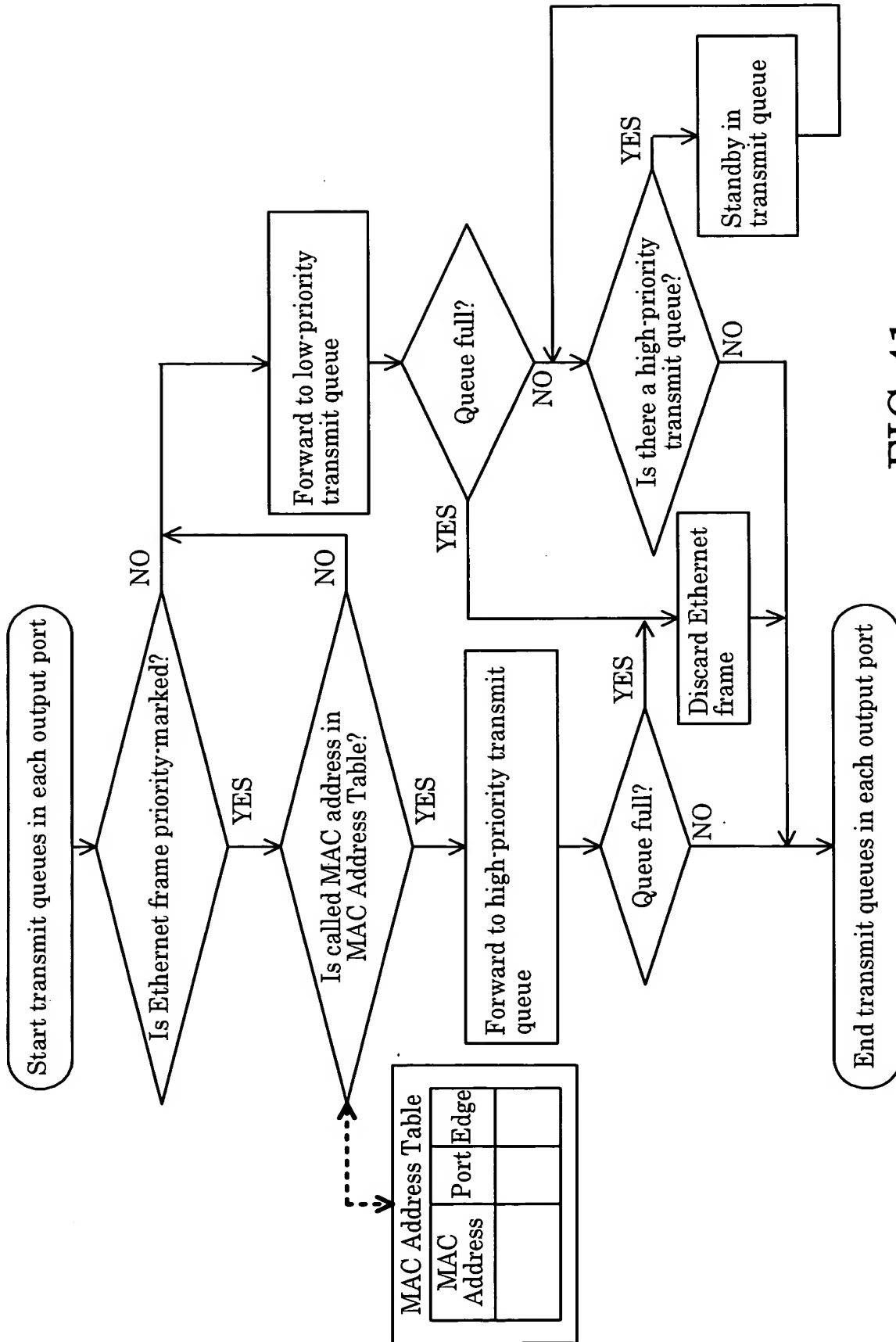


FIG.41

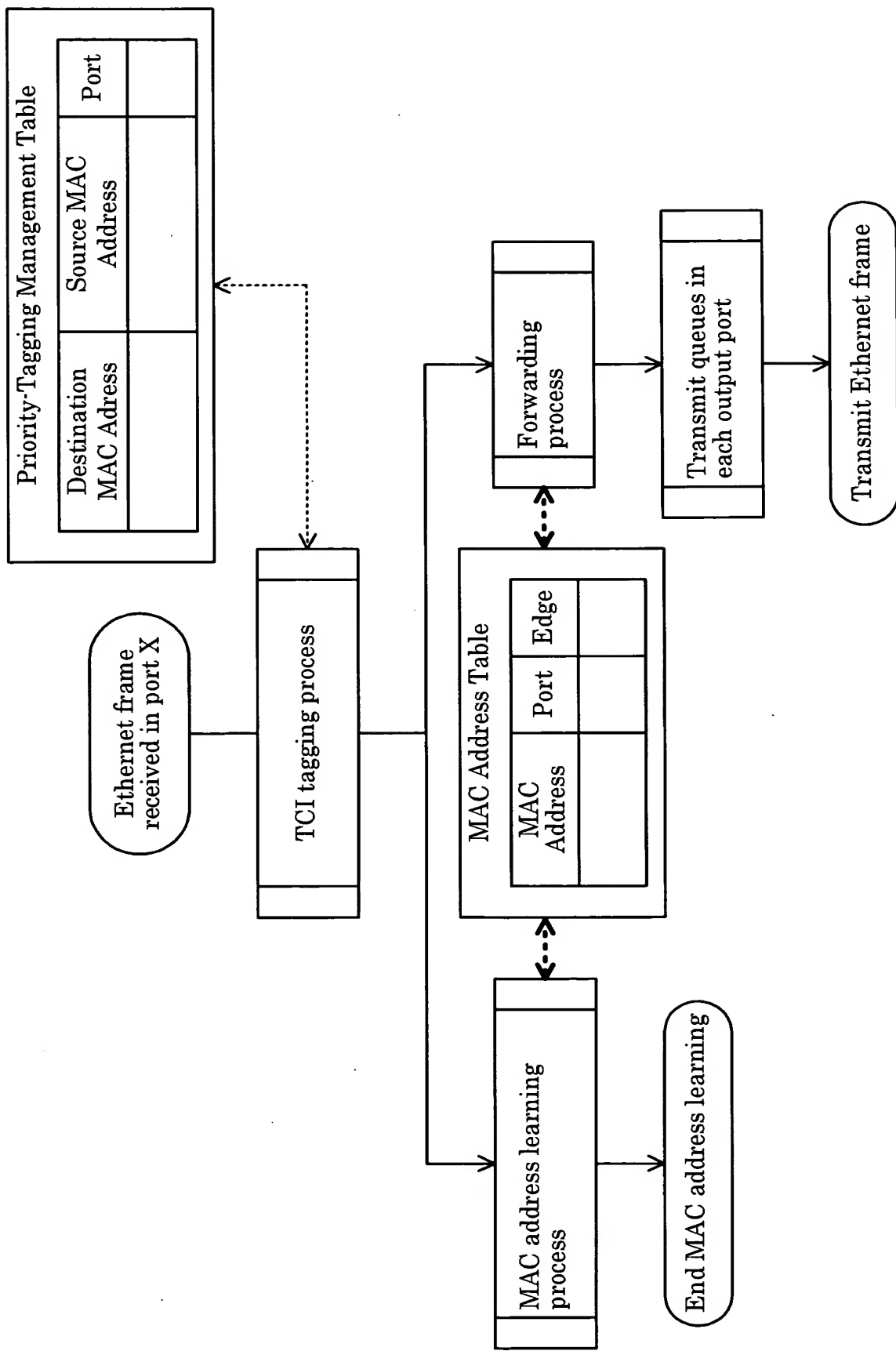
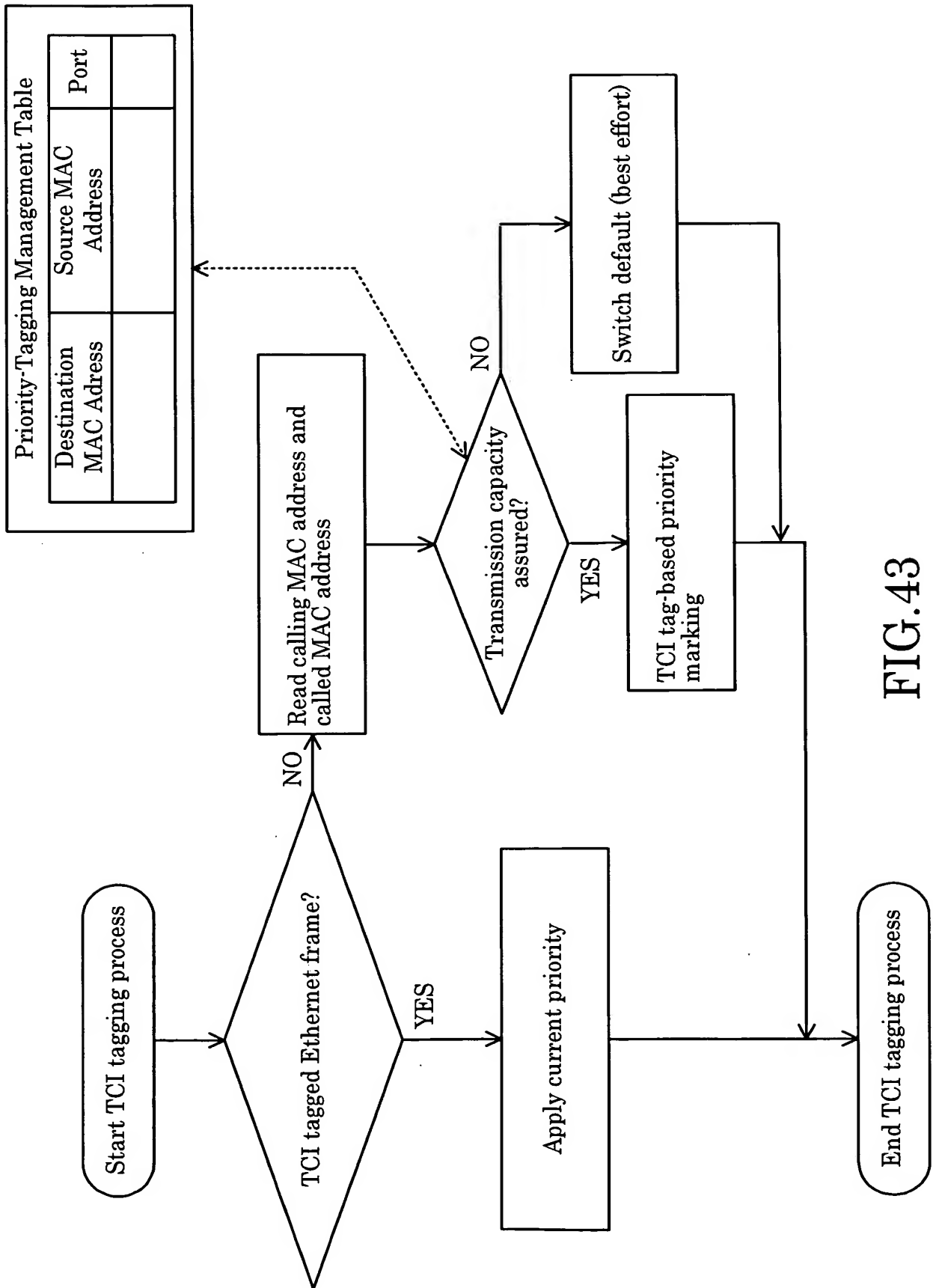


FIG.42



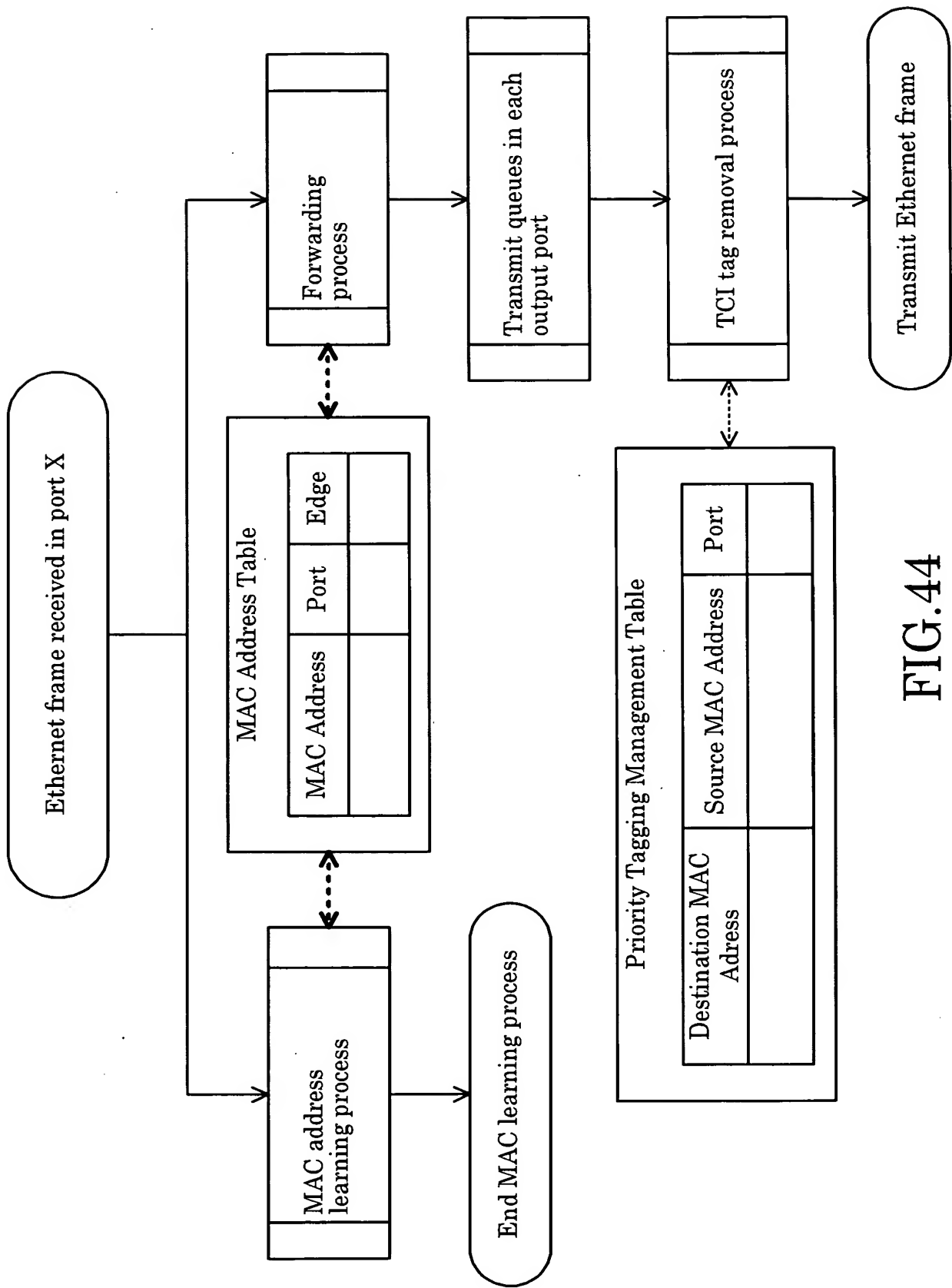
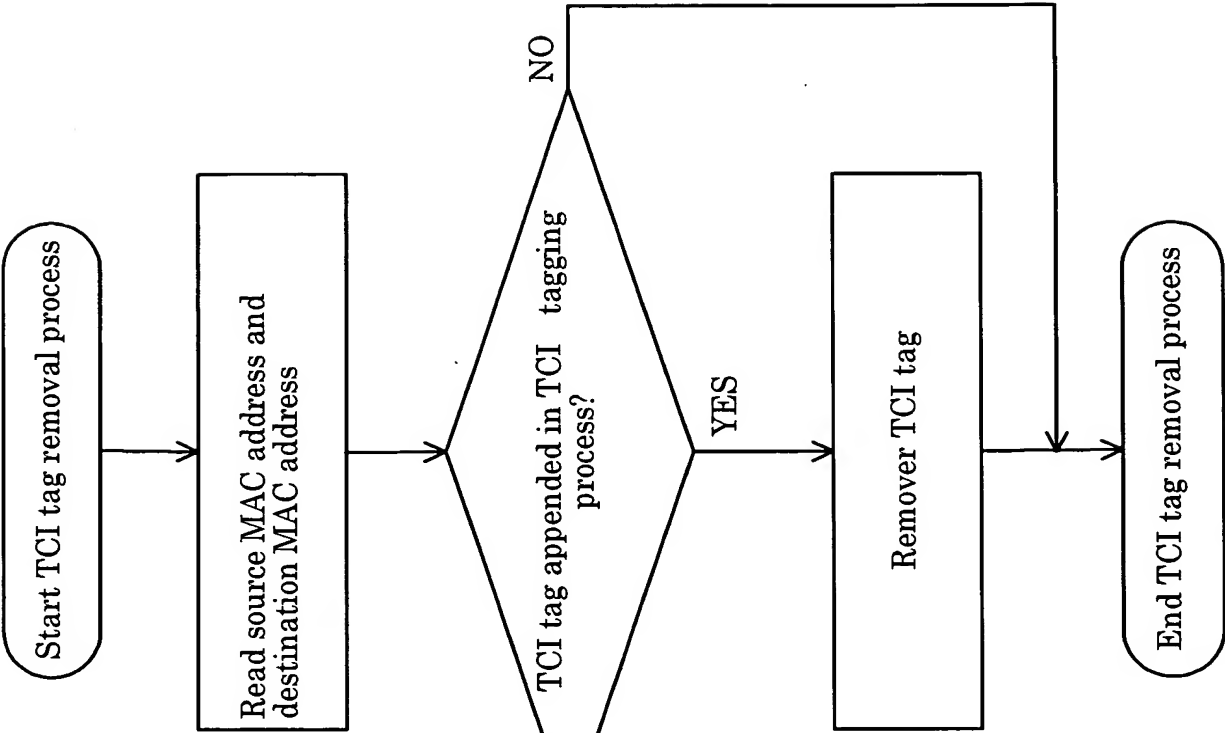


FIG.44



Priority Tagging Management Table		
Destination MAC Address	Source MAC Address	Port

FIG.45

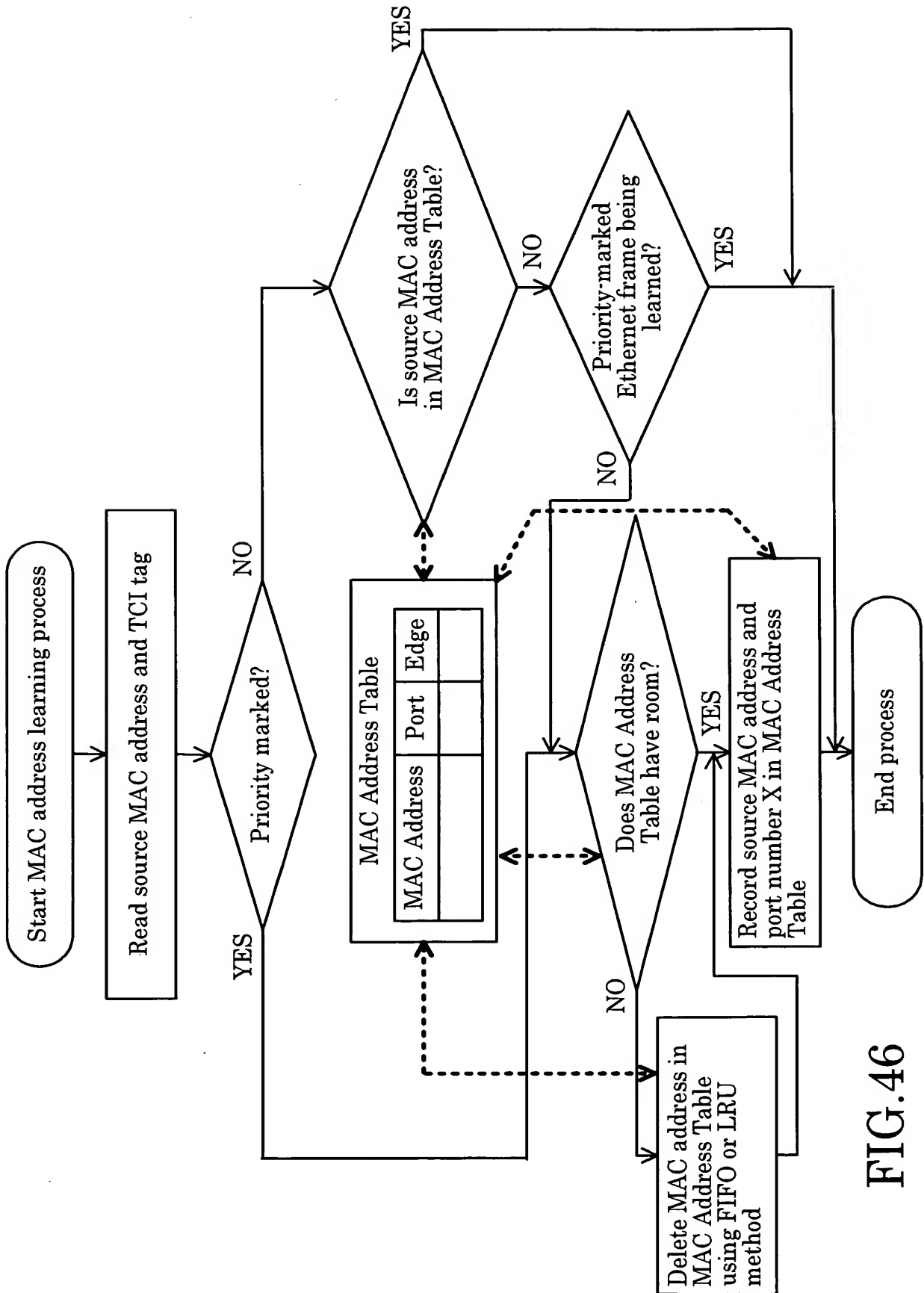


FIG. 46

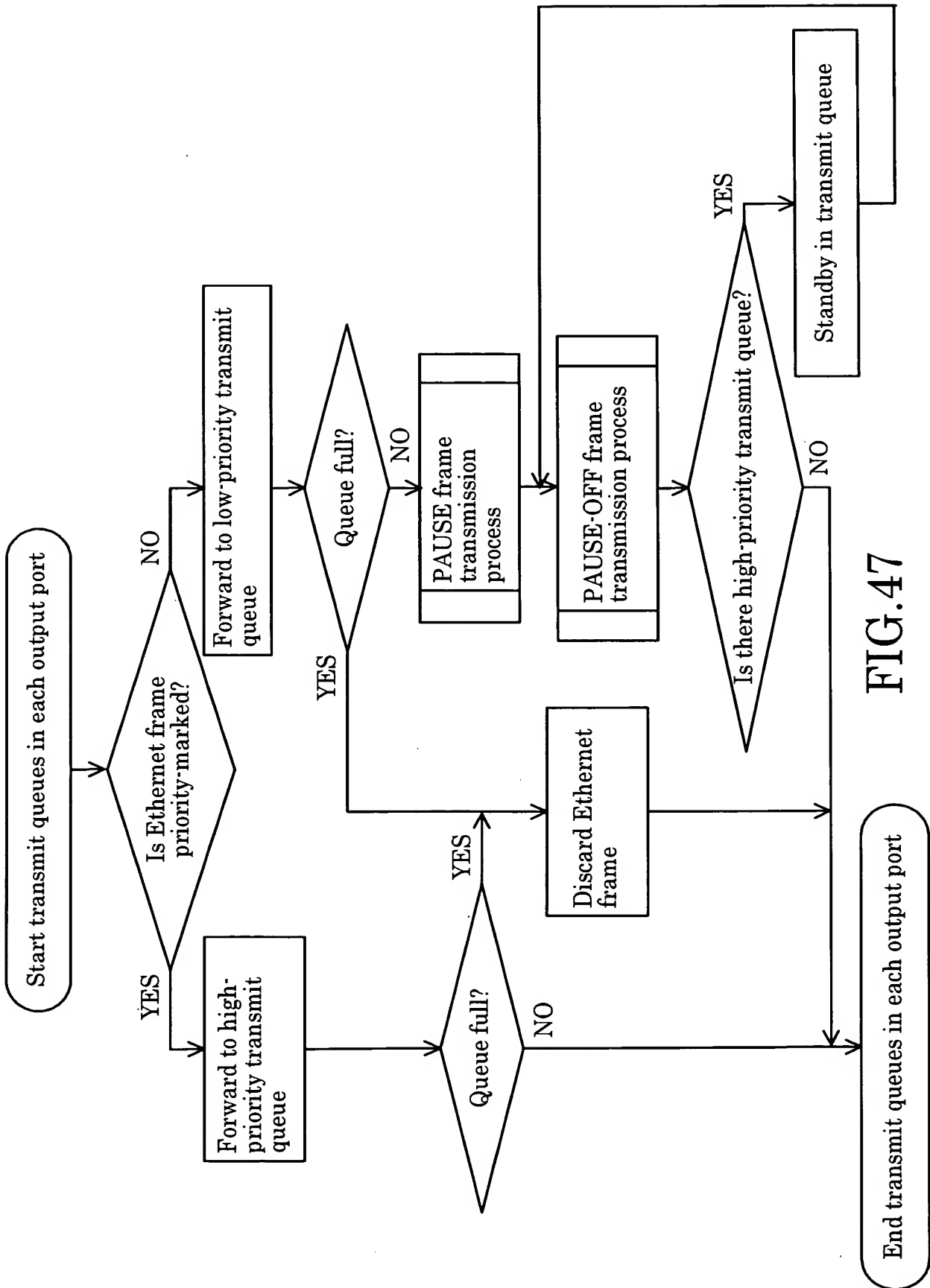


FIG. 47

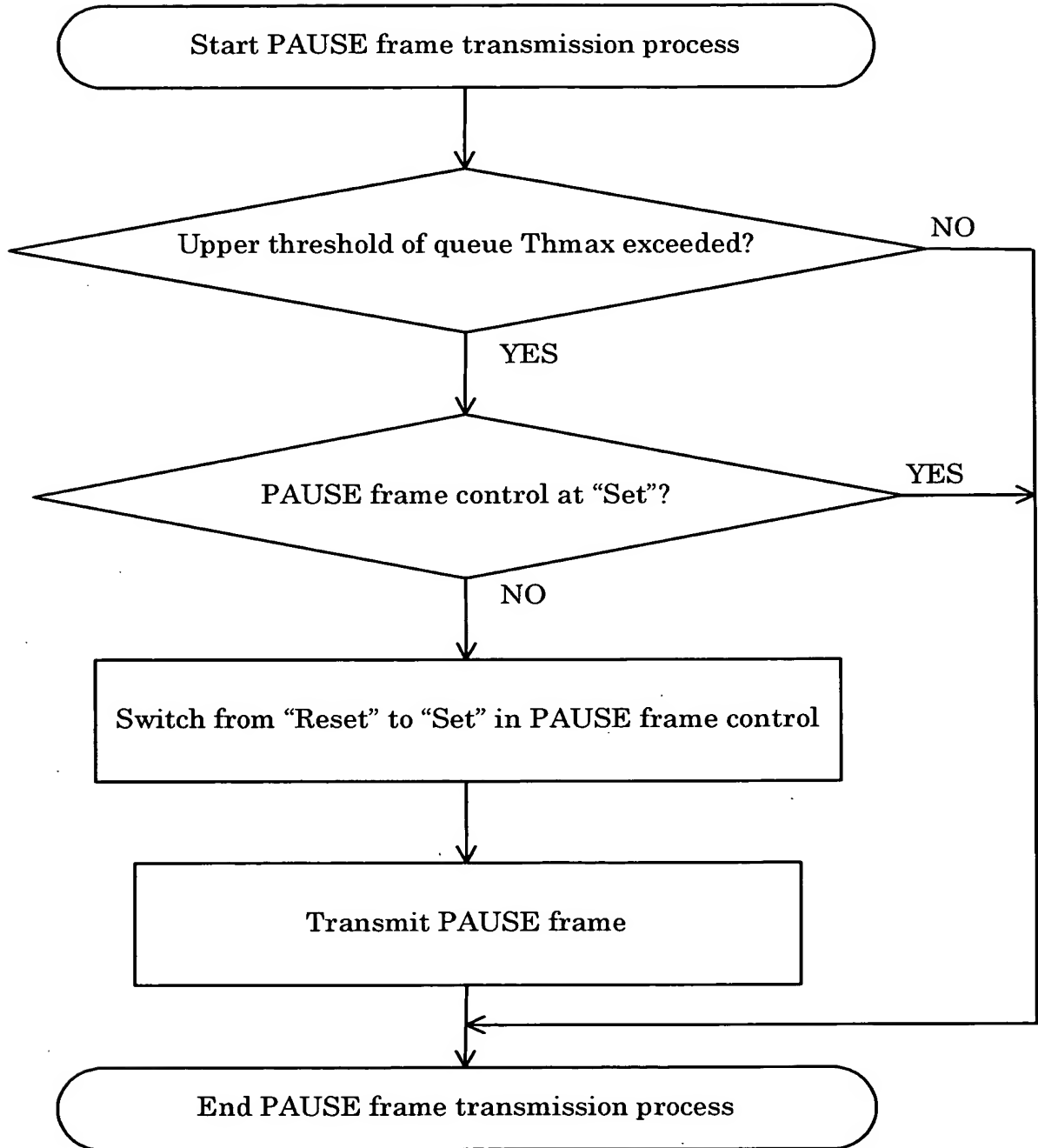


FIG.48

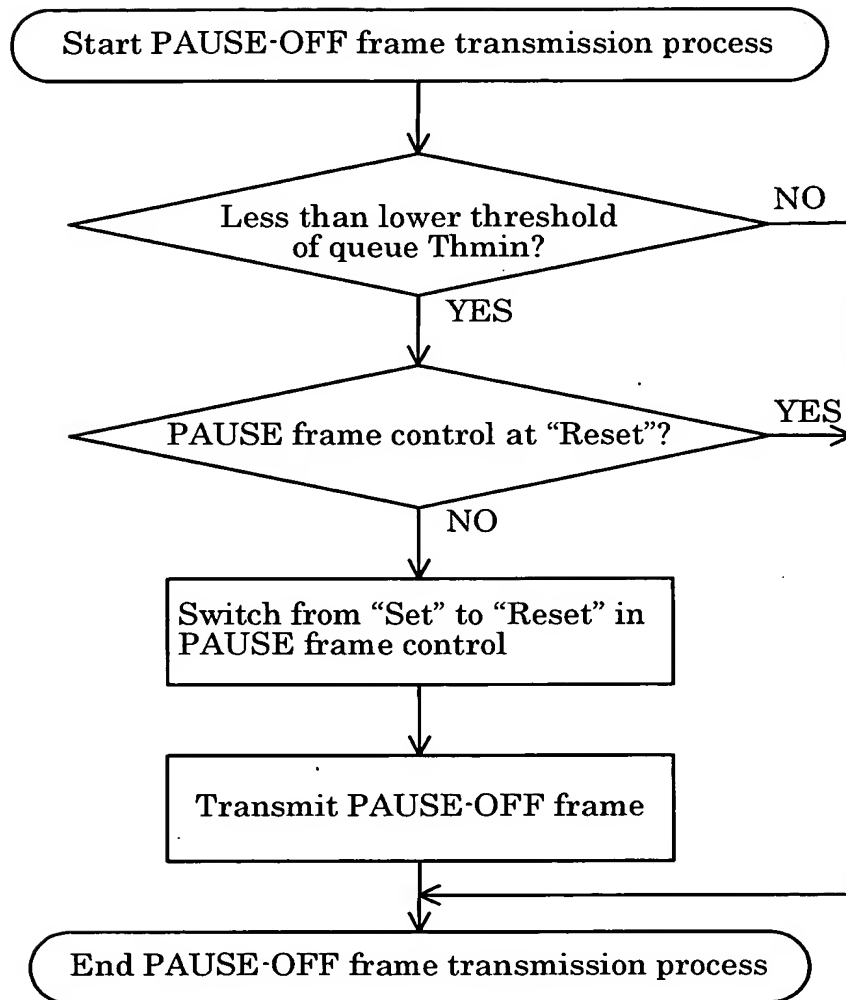


FIG.49

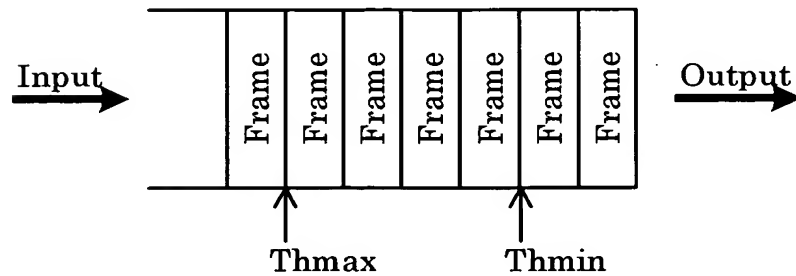


FIG.50

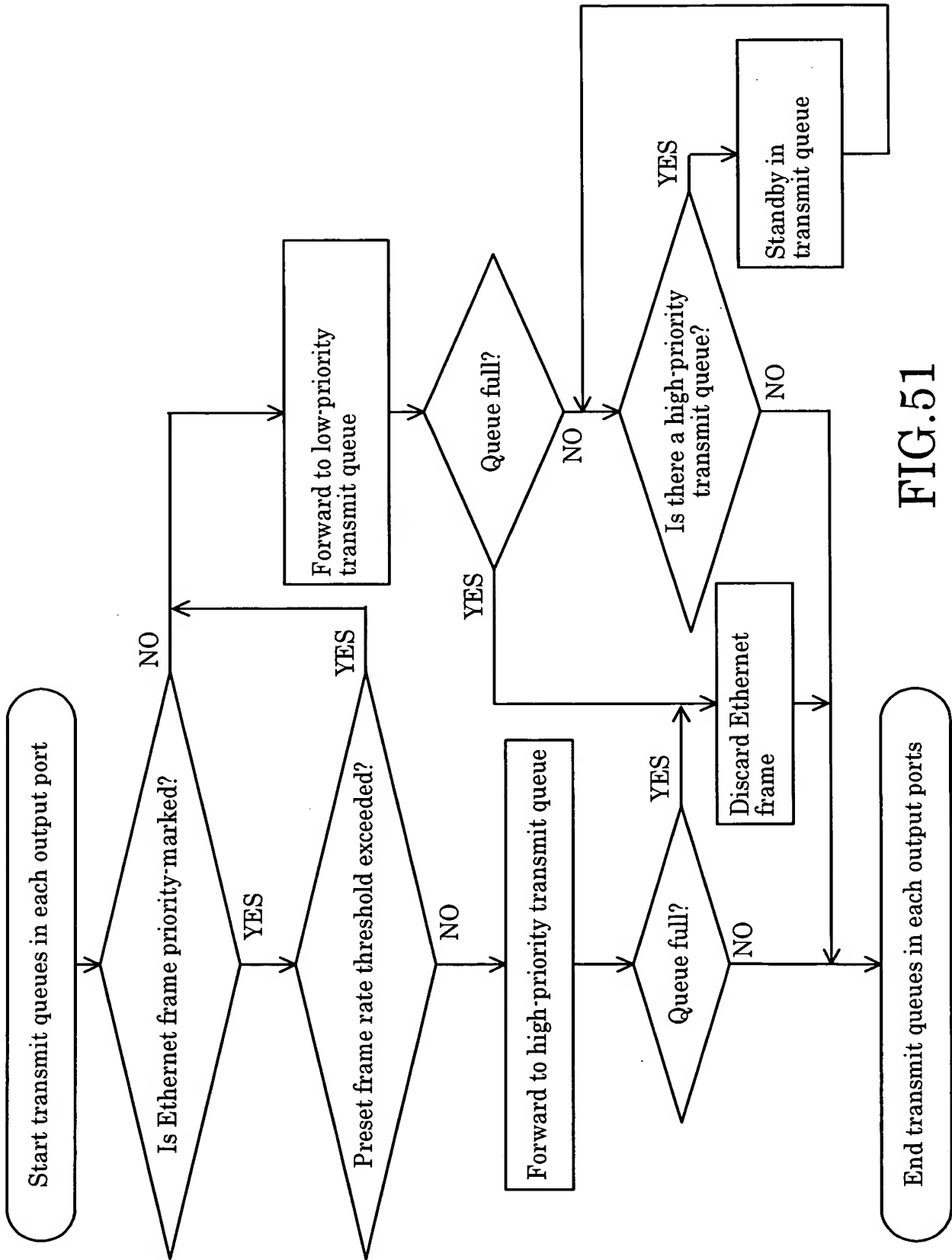
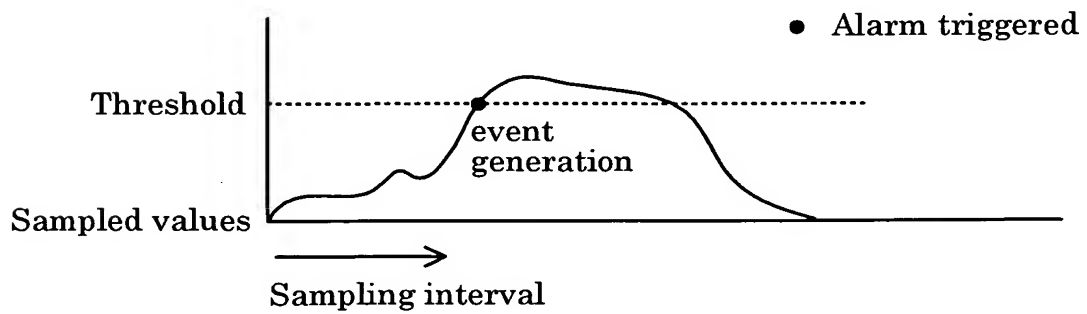
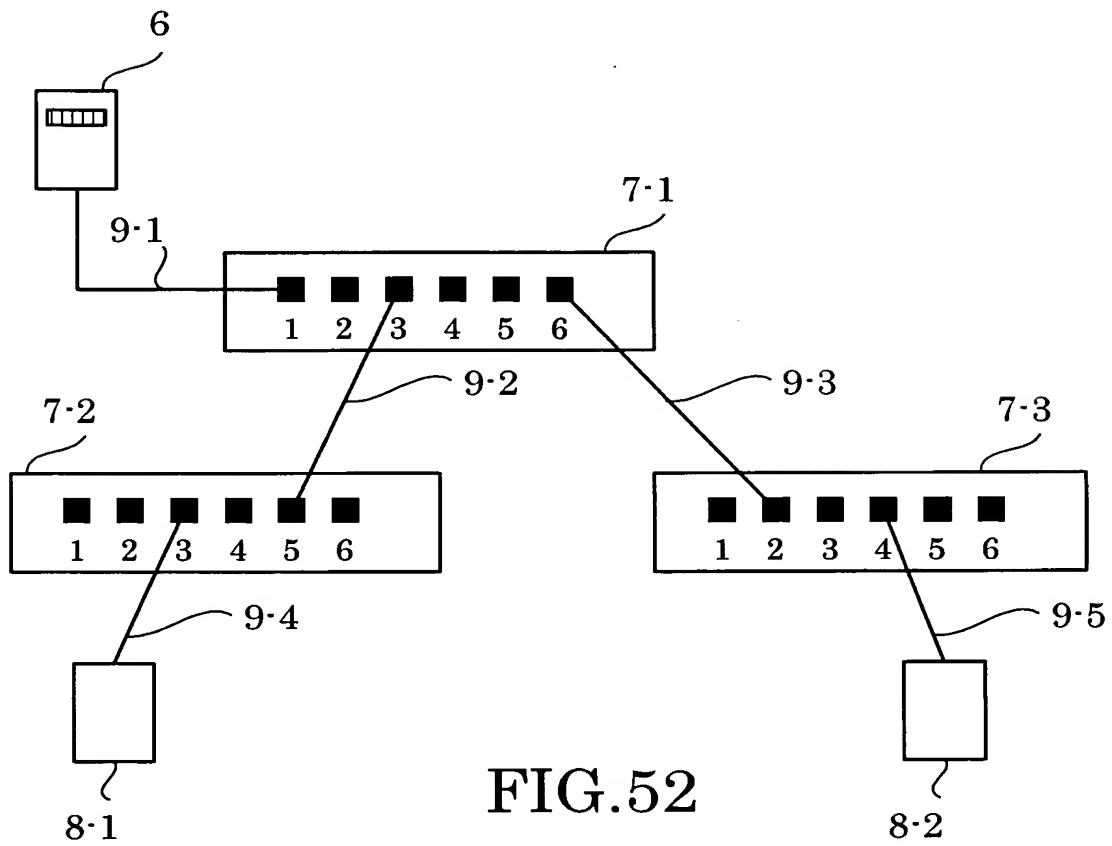


FIG. 51



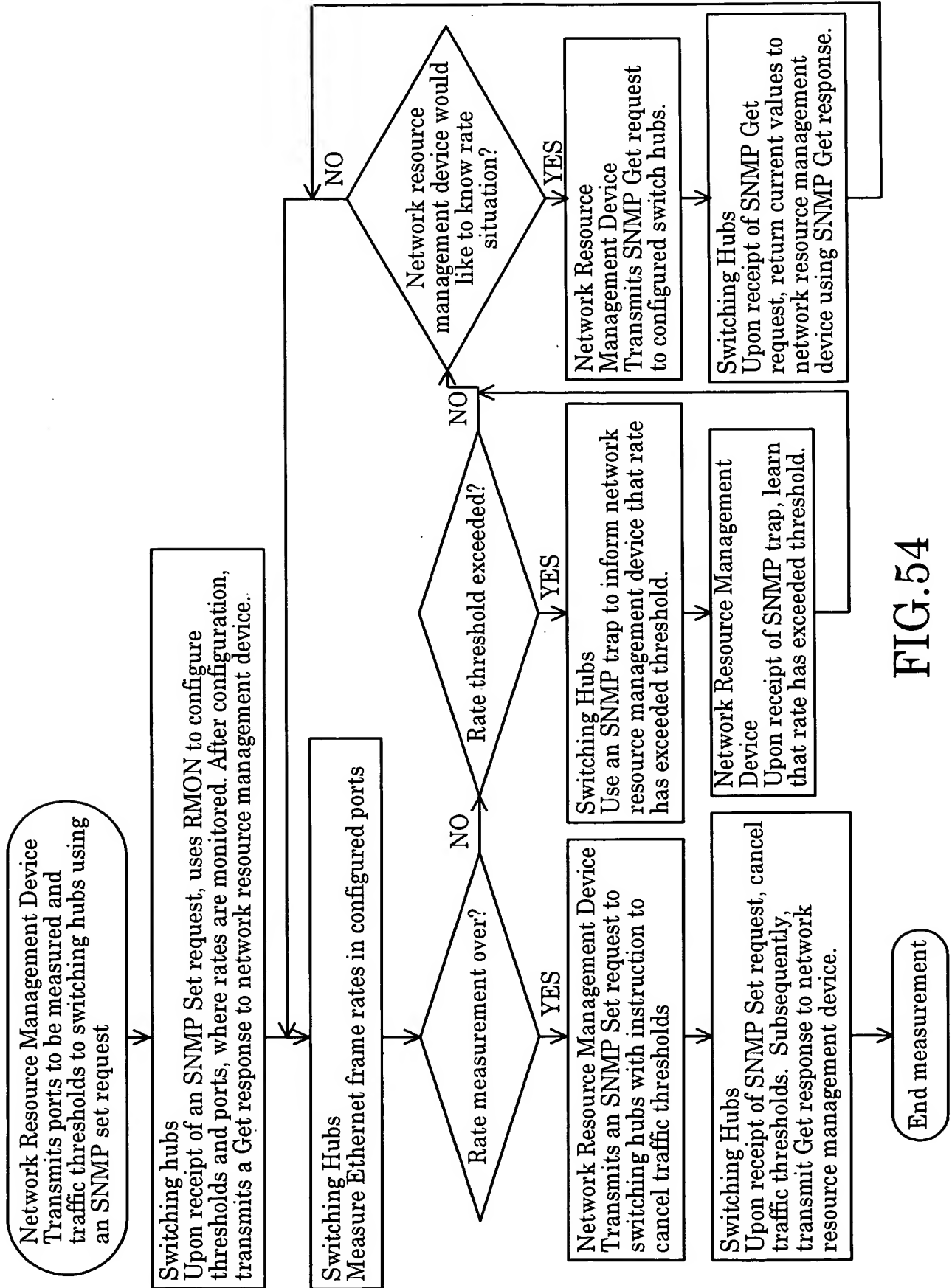


FIG. 54

SNMP Operations	Direction	Description
Get request	Management Terminal → Switching Hubs	Requests that current values be returned for a particular managed object
Get-Next request	Management Terminal → Switching Hubs	Requests that current values be returned for next object in MIB
Set request	Management Terminal → Switching Hubs	Requests that specified values be configured for specific managed object
Get request	Switching Hubs → Management Terminal	Provides response to requests such as Get, Get-Next, Set. After executing operation that triggered response, contents of MIB objects are returned as values
Trap	Switching Hubs → Management Terminal	Is used to inform of important events (switching of links on/off, reconfiguration of devices) regardless of requests from manager

FIG.55

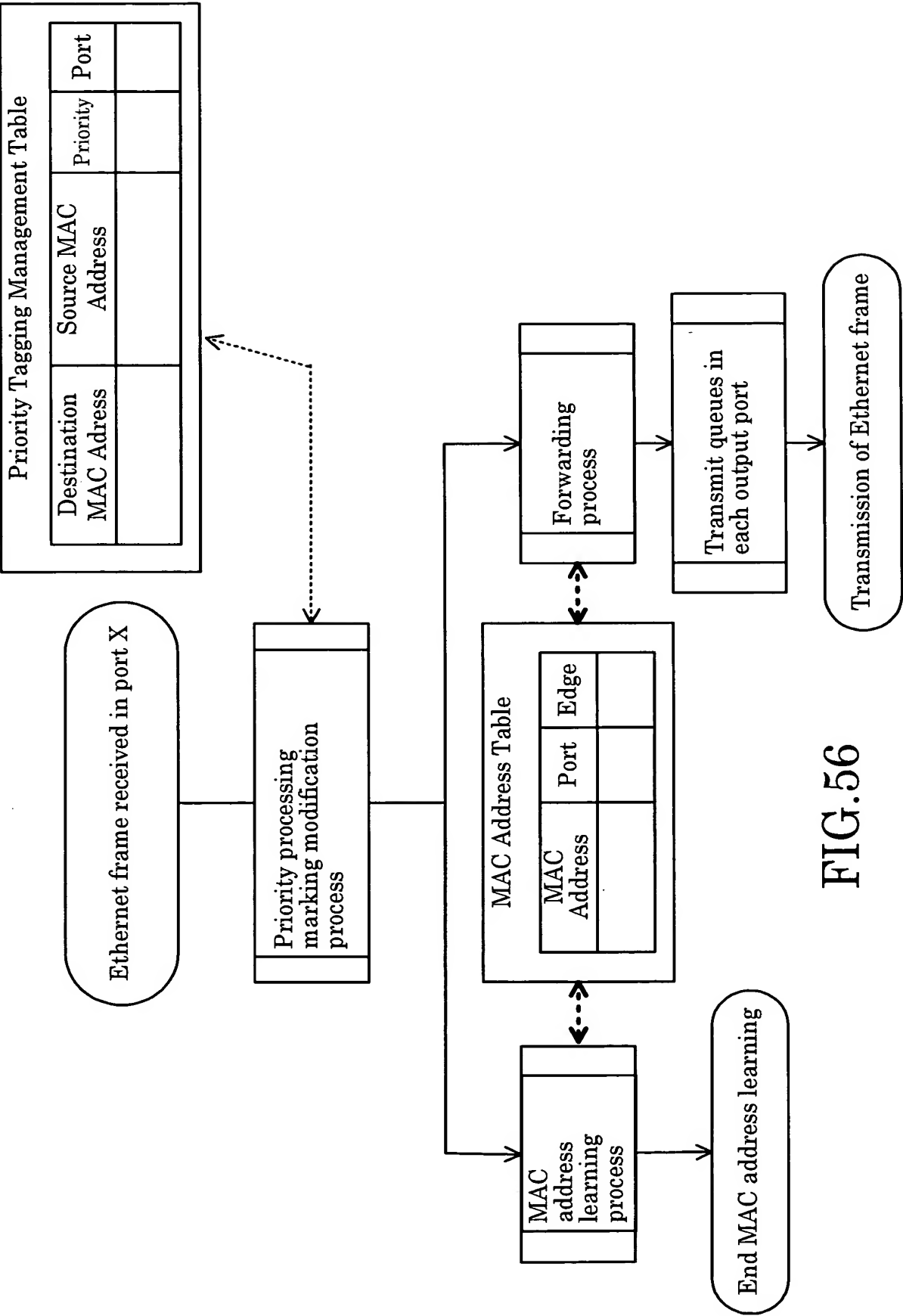


FIG.56

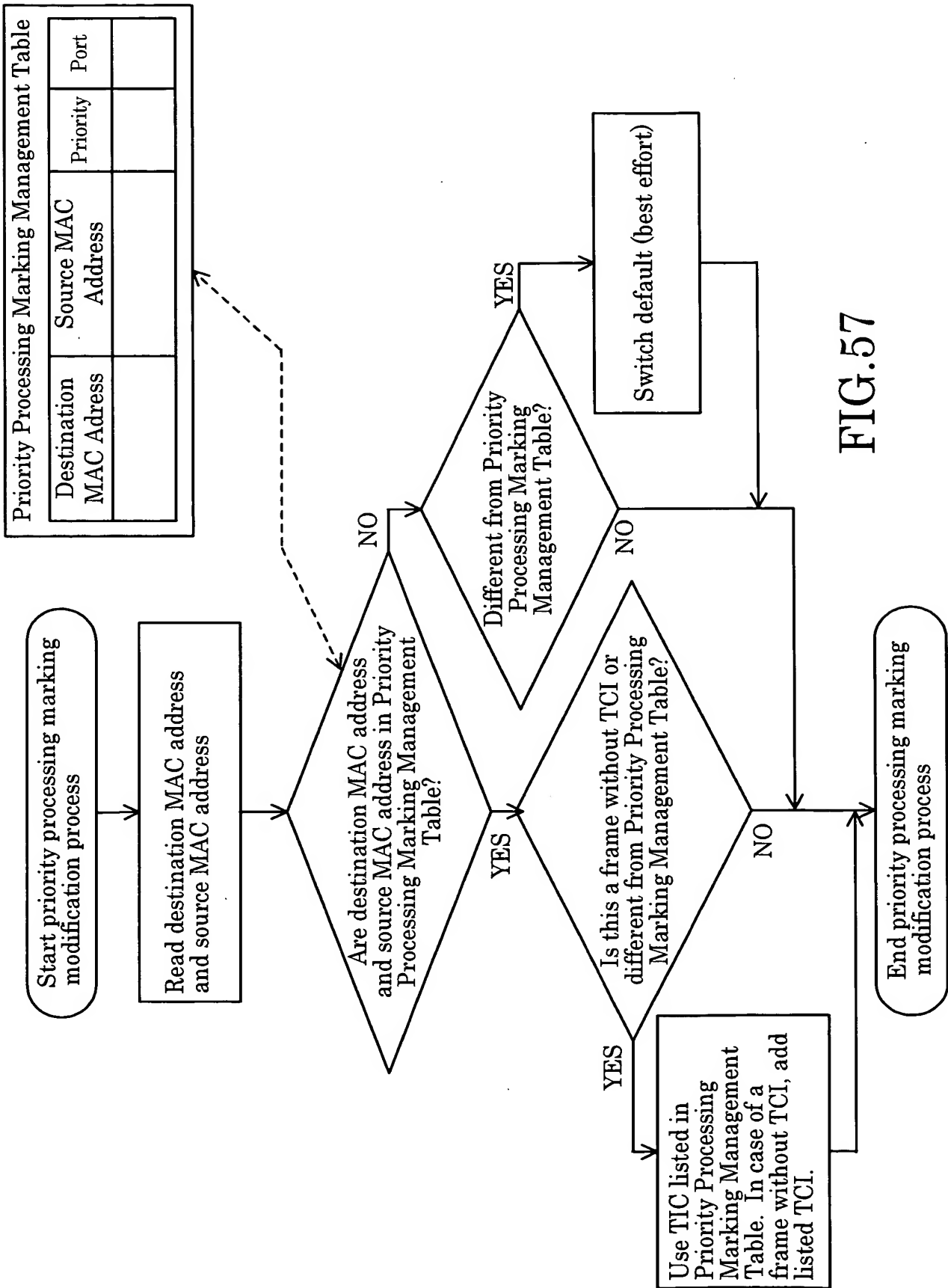


FIG.57

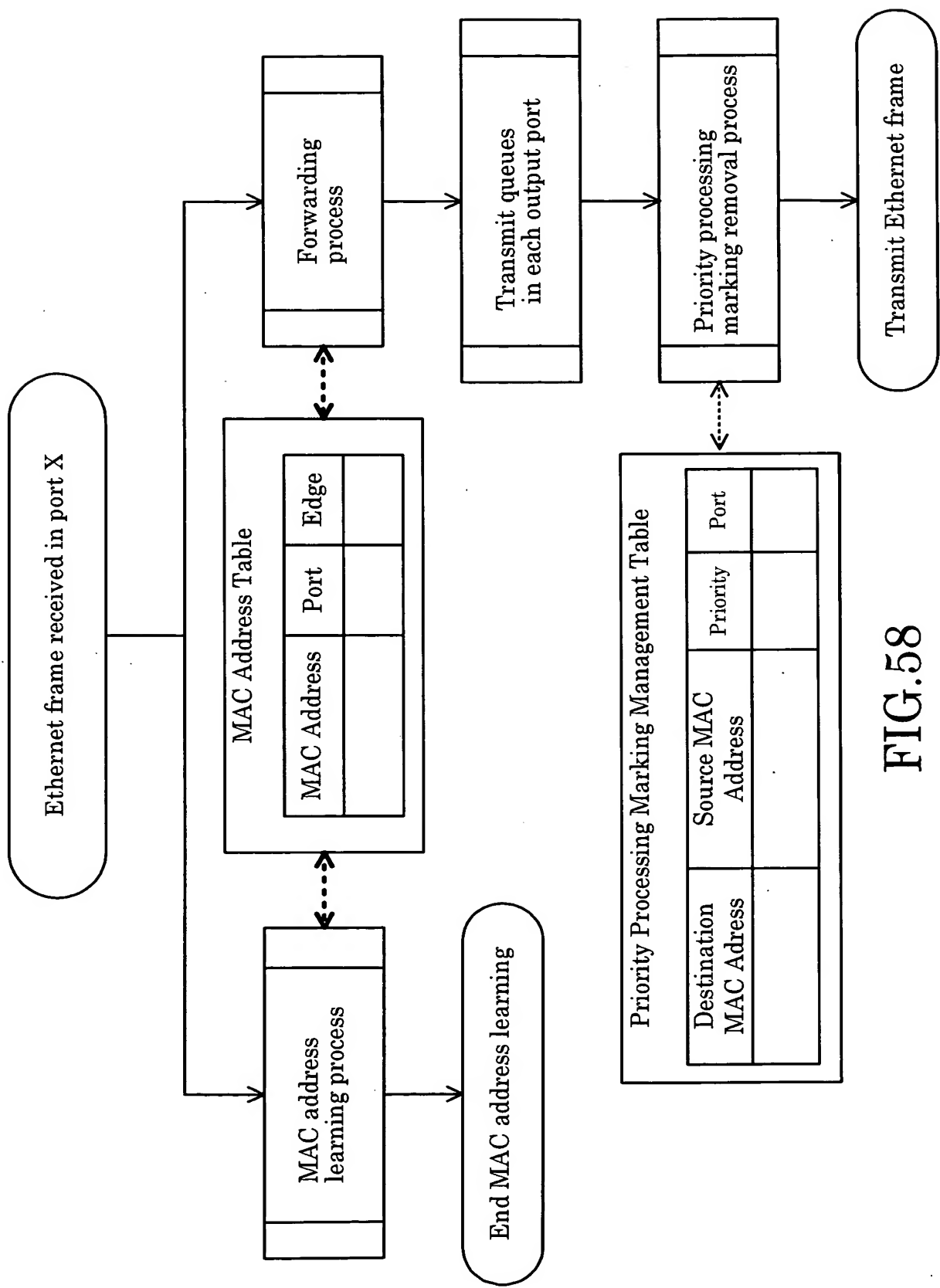


FIG.58

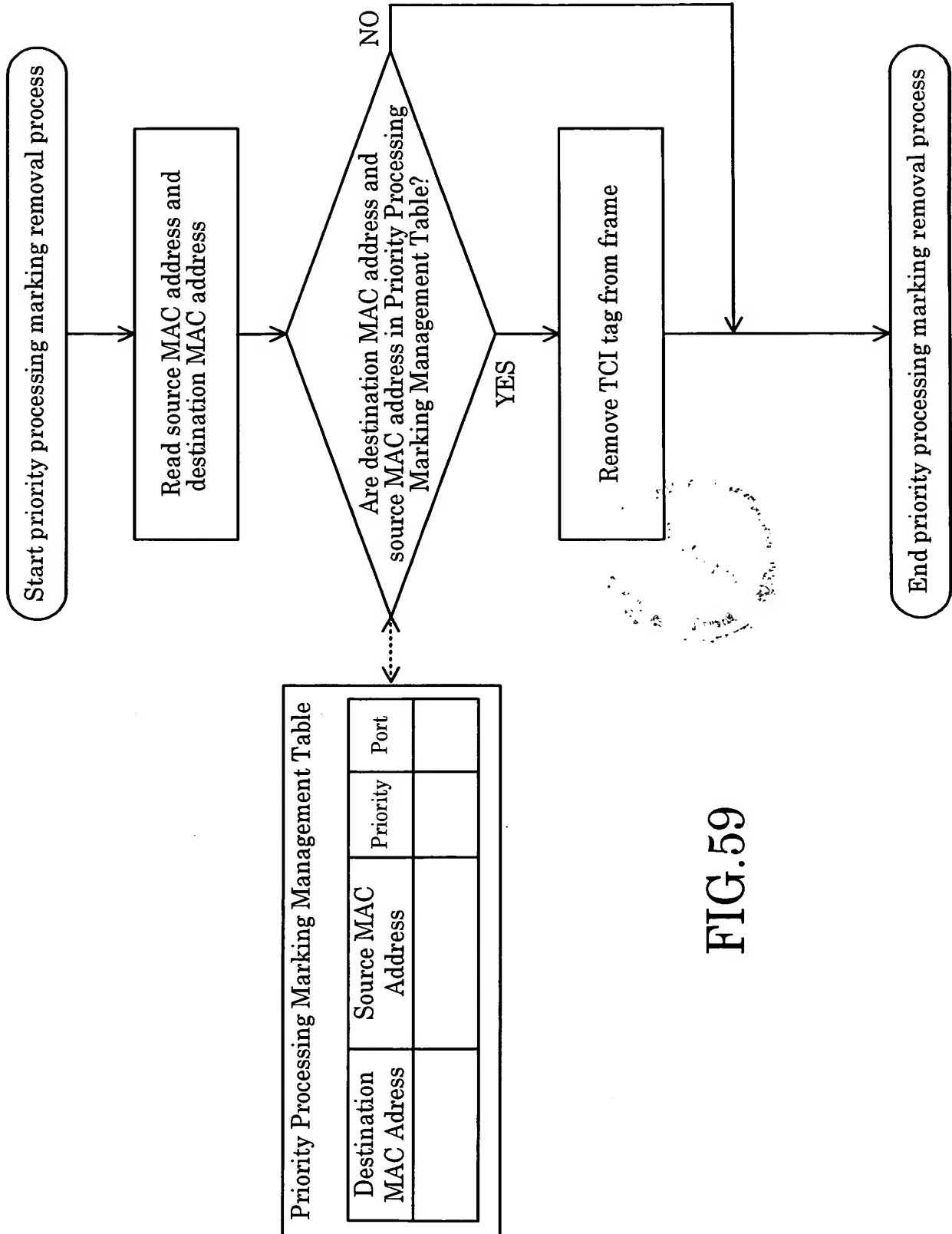


FIG.59